LEPIDOPTERA HETEROCERA
IN
THE BRITISH MUSEUM.

PART VI.

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ILLUSTRATIONS

OF

TYPICAL SPECIMENS

OF

LEPIDOPTERA HETEROCERA

IN

THE COLLECTION

OF

THE BRITISH MUSEUM.

PART VI.—BY ARTHUR GARDINER BUTLER.

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PREFACE.

The Types of Indian Moths illustrated in the present part are derived from the same collections, and belong to the same districts of the Indian Fauna, as those described and figured in the preceding part of this work. With regard to the species stated to have been collected by Stainsforth in Silhet, Mr. Butler observes that, "as some doubt was some time ago cast upon the correctness of the locality, it is interesting to note that the majority of the Lepidoptera collected by that gentleman have since been rediscovered in Assam and Darjiling."

ALBERT GÜNTHER,
Keeper of the Department of Zoology.

British Museum N. H., January 12, 1886.

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ILLUSTRATIONS

OF

TYPE SPECIMENS

OF

LEPIDOPTERA HETEROCERA.

LIPARIDÆ.

The following species was referred to the Notodontidæ in consequence of the resemblance of the female (to which sex the type belongs) to the species of *Pheosia* and other genera of that family; it has, however, recently been reared in Ceylon, and proves to be referable to the Liparidæ.

OLENE, *Hübn.*

Olene lanceolata. (Plate CVI. fig. 6.)

Rilia lanceolata, *Walker*, *Cat. Lep. Het.* v. p. 1075. n. 1 (1855).

♀. Primaries above dark brown, longitudinally and obliquely streaked with black and whity brown; the costal border irregularly whity brown; a broad pale external border tapering to apex, partly bounded internally by a whitish oblique streak, and enclosing an irregular black-edged whitish stripe; internal border, secondaries, and body whity brown: thorax slightly darker than abdomen. Under surface whity brown, the central areas of the wings slightly greyish and with dusky zigzag brown limitation towards apex: pectus greyish. Expanse of wings 57 millim.

Silhet.

LASIOCAMPIDÆ.

LEBEDA, *Walk.*

Lebeda repanda. (Plate CI. figs. 1 & 2.)

♀. Lebeda repanda (part.), *Walker, Cat. Lep. Het.* vi. p. 1460. n. 8 (1855).

♂ ♀. Nearly allied to *L. buddha* of Lefebvre, but larger and of a duller darker colour throughout; the dark patch on the primaries of the male with a pale (but not white) spot upon it; the greyish border of these wings very prominent: the secondaries of a smoky chocolate-brown colour, with a well-defined greyish border bounded internally by a dusky nebulous band: the under surface of a uniform dull chocolate-brown colour, with paler veins. The female of a more uniform dull foxy red-brown colour than that sex of *L. buddha*; the belts across the primaries wider towards the costa, their pale borders only edged with a darker line on one side; the submarginal series of spots blackish and well defined: secondaries crossed just beyond the middle by a paler band. Expanse of wings, ♂ 55 millim., ♀ 84 millim.

♂, Nepal; ♀, Silhet.

The "sexes" described by Walker are both females; the female "variety" described by him is that sex of *L. buddha* = *L. plagiata*, Walk.

SUANA, *Walk.*

Suana bimaculata. (Plate CI. figs. 3 & 4.)

♂. Lebeda bimaculata, *Walker, Cat. Lep. Het.* vi. p. 1463. n. 13 (1855).

♂. Primaries above deep ferruginous, crossed by about six more or less sinuated dusky stripes; an ochreous subbasal patch between the first two; a triangular silver spot in the cell between the third and fourth lines; external border greyish, its inner edge irregularly zigzag, and bounded by blackish and testaceous spots: secondaries dark purplish brown, paler at the base: body and underside chocolate-brown. Expanse of wings 43 millim.

♀. Bright ferruginous red, with markings similar to those of the male, but the area between the fourth and fifth stripes lilacine greyish and the silver spot contracted, almost comma-shaped; a pale patch on the outer border above external angle. Wings below clay-coloured, with dusky border; the secondaries with an oblique ill-defined ferruginous streak from the costa, continued, less distinctly, as a narrow band across the wing. Expanse of wings 136 millim.

♂, Silhet; ♀, Java.

Walker regarded the female as a variety of his *Suana ampla*, for which he described two females as sexes, one of them being the Philippine representative of *L. bimaculata*, the other (which must be regarded as typical *S. ampla*) being a form from Silhet, differing chiefly from *S. bimaculata* in the absence, in both sexes, of the silver spot on the primaries, and in the different intervals between the stripes on these wings.

LIMACODIDÆ.

SCOPELODES, *Westw.*

Scopelodes testacea. (Plate CI. fig. 5.)

Scopelodes unicolor, *Walker* (*nec Westwood*), *Cat. Lep. Het.* v. p. 1104. n. 1 (1855).

Primaries and thorax shining brownish testaceous, the surface slightly undulating: secondaries pale shining golden ochreous, with white-tipped fringe. Palpi grey, with white subapical and black apical band; abdomen deep ochreous, with two or three dorsal black tufts; anal segment black. Expanse of wings 72 millim.

Silhet and Moulmein.

The *Scopelodes unicolor* of Westwood is a smaller and perfectly distinct species from Java.

Scopelodes sericea. (Plate CI. fig. 6.)

Scopelodes sericea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 63. n. 3 (1880).

Allied to *S. testacea*; wings and body of the same general colour, but the primaries brilliantly sericeous and crossed by three or four irregular indented lines, which (when viewed obliquely) appear to be the margins of irregular reddish bands; the general colour above is sandy yellow, the wings with a rust-red marginal line extending for a short distance into the fringe; fringe of secondaries brilliantly sericeous: the palpi, instead of being black and white as in *S. unicolor*, are reddish orange; the abdomen is sericeous ochreous, with black caudal tuft. The wings below have the costal and apical areas washed with blackish, upon which the veins are ochreous; body as above. Expanse of wings 74 millim.

Darjiling (*Lidderdale & Sadler*).

Allied to *S. testacea*, but differing in the more sericeous and apparently undulated character of the primaries and the different form and coloration of the palpi.

Scopelodes ursina. (Plate CI. figs. 7 & 8.)

Primaries in both sexes sericeous bronzy reddish brown; fringe grey, silvery in the male: secondaries of male sericeous smoky greyish brown; the outer margin and base of fringe golden reddish brown; fringe tipped with whitish: thorax reddish brown; abdomen ochreous, with blackish dorsal tufts and anal segment. Secondaries of female testaceous, with broad smoky greyish-brown external area crossed by testaceous veins; margin and base of fringe testaceous; tips of fringe greyish: thorax dark reddish brown; palpi dull blood-red, with white subapical and black apical band; abdomen testaceous (apparently with blackish dorsal tufts and anal segment): on the under surface all the wings are coloured in the same way as the secondaries are on the upper surface. Expanse of wings, ♂ 53 millim., ♀ 57 millim.

♂, Darjiling; ♀, Silhet.

This species is evidently allied to *S. vulpina* of Moore, but differs entirely in the coloration of the secondaries; the female is somewhat like *S. venosa*, but differs in its superior size, the redder coloration of the primaries and thorax, and the more restricted dark external area of the secondaries.

PHOCODERMA, gen. nov.

Aspect of *Neomiresa* (*N. nesea*), form of *Parasa*. Primaries broad, with nearly straight costa, rounded apex, oblique slightly convex outer margin, passing gradually into the inner margin, which is incurved towards the base; thickly scaled, the discoidal area below clothed with thick woolly hair; costal vein running to three fourths of costal margin; subcostal five-branched, the first and second branches emitted before the end of the cell, the third and fourth forking to apex at about one third the distance between the cell and outer margin, the fifth emitted from below the vein and just beyond the cell; discocellulars irregularly inangled; upper radial emitted from about the middle of the discocellulars, lower radial emitted close to the third median branch; remaining veins as usual: secondaries subpyriform; costal vein not reaching the apex, forked near its extremity; subcostal with two branches, perfectly normal; discocellulars very acutely inangled; radial emitting a recurrent vein which almost divides the cell into two unequal parts, the radial and median branches almost equidistant, submedian and internal veins normal. Body very robust and covered with dense coarse hair: palpi rather large, long, compressed, with the terminal joint short; antennæ of male rather broadly bipectinated to beyond the middle, after which the pectinations are gradually replaced by serrations: legs very robust; the posterior tibiæ clothed with dense long hair, unequally quadrispinose: in the females all the legs are thickly clothed with hair to the end of the tarsi.

Phocoderma velutina. (Plate CII. fig. 1.)

♂. Gastropacha velutina, *Kollar in Hügel's Kashmir*, p. 473. n. 3.
♂. Natada rugosa, *Walker, Cat. Lep. Het.* v. p. 1109. n. 2 (1855).

♀. Shining purplish brown, the basicostal half dark, its outer edge slightly undulated, very oblique, inarched towards the apex, and followed by a submarginal arched line of the same colour; the intermediate area enclosing two large dark nebulous patches; external border greyish; fringe dark brown: secondaries sericeous rufous-brown with darker fringe: body dark sericeous purplish brown. Under surface shining vinous-brown; anterior tibiæ with two silver bands. Expanse of wings 74 millim.

♂, Sind?; ♀, Darjiling (*Lidderdale*).

The locality of Walker's type is doubtless incorrect, the species being well known as a N.E.-Himalayan form: it was said to have been collected by Mr. Warwick, most of whose Lepidoptera are entered in the register as from "Assam"; this is therefore, in all probability, the true locality for the type of "*Natada rugosa*."

MIRESA, *Walk.*

Miresa bracteata. (Plate CII. fig. 2.)

Miresa bracteata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 64. n. 5 (1880).

Primaries with the costal area olive-brown, washed with lilacine; interno-basal area fulvous internally, gradually shading into ferruginous, and lastly into olivaceous towards the median vein; the veins across it indicated by lilacine-grey scales; a zigzag metallic silver stripe from the subcostal vein near the apex to just below the middle of inner margin, the inner angle of the zigzag stripe confluent with a large cuneiform patch of silver just below the end of the cell; disk beyond the silver stripe olive-green, crossed by pale sericeous veins; external border dark red-brown, densely sprinkled with metallic plumbaginous scales; fringe red-brown: secondaries of the male stramineous, slightly washed with dull rose-colour in front; of the female rosy brownish, with whitish veins and external border, stramineous abdominal border, and ochraceous fringe: thorax bright chrome-yellow; antennæ and abdomen orange-yellow or bright ochreous. Under surface red-brown, with the internal areas of the wings and tail (particularly the caudal tuft of the male) ochraceous; legs chrome-yellow. Expanse of wings, ♂ 36 millim., ♀ 40 millim.

Darjiling (*Lidderdale*).

Miresa decedens. (Plate CII. fig. 3.)

Miresa decedens, *Walker, Cat. Lep. Het.* v. p. 1125. n. 4 (1855).

Reddish clay-coloured: the primaries with the basicostal area darker, almost chocolate-coloured, bounded by a slightly sinuous diffused stripe, which is followed by a few metallic silvery scales; outer margin and fringe also dotted with metallic scales: secondaries unicolorous, rather paler than the primaries: body dull sulphur-yellow, the antennæ dull flesh-coloured; the head, collar, and abdomen washed with reddish testaceous; the tegulæ tipped with orange: under surface of wings becoming pale yellowish towards the outer margins. Body below whitish; tibiæ dull rust-red in front, otherwise testaceous or white. Expanse of wings 34 millim.

North India (*James*).

The thorax is not striped, as described by Walker; the tegula of the left side has been displaced, so that its orange tip is in the centre of the thorax; the right-hand tegula is, however, in position, and shows its tip at the side: two of the "three slight luteous stripes, partly luteous in front," are thus accounted for; the left-hand stripe was evidently supposed to be rubbed off.

SUSICA, *Walk.*

Susica pallida. (Plate CII. fig. 4.)

Susica pallida, *Walker, Cat. Lep. Het.* v. p. 1114. n. 1 (1855).

Whity brown, sericeous: primaries speckled with dark brown and crossed in the middle by an oblique stripe of the same colour, beyond which the ground-colour becomes very pale stramineous; head and thorax whitish stramineous. Under surface pale testaceous, primaries with greyish discoidal area. Expanse of wings 25 millim.

Nepal (*Hardwicke*).

The type is in a damaged condition; it is possible that the intensity of the colouring may have been lost, but the specimen does not appear to have faded.

PARASA, *Walk.*

Parasa repanda. (Plate CII. fig. 5.)

Neæra repanda, *Walker, Cat. Lep. Het.* v. p. 1141. n. 6 (1855).

Primaries above pea-green*; an externally bilobed basal dark chocolate-brown patch edged with white; costal margin dark brown; external border chocolate-brown, bounded internally by a pure white stripe and sparsely irrorated with white; base of fringe pale: secondaries sericeous whity brown, with broad diffused rufous-brown costal and external borders: thorax pea-green, the palpi, frons, and antennæ chocolate-brown; abdomen rufous-brown. All the wings below stramineous, with broad rufous-brown borders (the primaries probably greenish in fresh examples): body below chocolate-brown, varied with black. Expanse of wings 50 millim.

North India.

Parasa pastoralis. (Plate CII. fig. 9.)

Parasa pastoralis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 63. n. 4 (1880).

Primaries above with a large basal sandy-yellowish patch, crossed close to the base by a zigzag red-brown line; a subbasal arched purplish-brown belt, spotted with green and not quite reaching the costal or inner margins; the whole area between the latter and external area bright emerald-green, forming an irregular belt constricted below the middle; external area limited internally by a sinuous ferruginous line, sandy yellowish or testaceous, traversed by a dentate-sinuate submarginal ferruginous line; fringe brownish: secondaries pale stramineous, with pinky-brownish fringe: thorax bright green, the shoulders and a dorsal streak brown; abdomen testaceous. Under surface of wings sordid sulphur-yellow, the borders slightly

* The type having faded, Walker described it as "Pale greenish yellow."

tinted with stramineous; fringe brown: primaries with a ferruginous subcostal diffused streak: body testaceous; anterior coxæ and femora ferruginous; tibiæ banded with purplish brown. Expanse of wings 53 millim.

Bhotan (*Lidderdale*).

Parasa bicolor. (Plate CII. fig. 11.)

Neæra bicolor, *Walker*, *Cat. Lep. Het.* v. p. 1142. n. 7 (1855).

Primaries above bright pea-green; costal margin ochreous; an oval red-brown spot near the base of the third median branch, and five or six others in an interrupted curved line across the disk; fringe externally whitish, tipped with purplish brown: thorax pea-green; abdomen and secondaries pale sericeous chocolate-brown. Under surface sericeous pale chocolate-brown, the external areas of the wings still paler. Expanse of wings 31 millim.

North India.

NEOMIRESA, *Butl.*

(Nyssia, *Herr.-Sch.**)

Neomiresa herbifera. (Plate CII. fig. 6.)

Nyssia herbifera, *Walker*, *Cat. Lep. Het.* v. p. 1136. n. 9 (1855).

Wings and abdomen dark chocolate-brown, but the primaries with the basal three fourths paler and enclosing a diffused grass-green spot; thorax grass-green: under surface uniformly chocolate-brown. Expanse of wings 33 millim.

Nepal (*Hardwicke*).

NATADA, *Walk.*

Natada rufescens. (Plate CII. fig. 10.)

Natada rufescens, *Walker*, *Cat. Lep. Het.* v. p. 1109. n. 1 (1855).

Primaries sericeous, copper-brown; basal third darker and bounded externally by a nearly straight transverse blackish line; a second ill-defined oblique zigzag line just beyond the middle, a third submarginal distinct transverse line from the costa near the apex to the outer margin near external angle; fringe tipped with blackish: secondaries paler than primaries with the exception of the fringe: head and antennæ red-brown; thorax and posterior margin of collar red; abdomen chocolate-brown, with a red dorsal stripe towards the base. Under surface of wings and pectus pale cupreous brown; venter chocolate-brown. Expanse of wings 35 millim.

North India.

* In his Catalogue Walker adopted both *Neæra* and *Nyssia*, whilst at the same time admitting in a footnote his knowledge that they were preoccupied.

CANIA, *Walk.*

Cania sericea. (Plate CII. fig. 7.)

Cania sericea, *Walker*, *Cat. Lep. Het.* v. p. 1178. n. 1 (1855).

Sericeous: primaries above pale testaceous, with faint cupreous reflections; a large basal patch, an oblique band beyond the middle and parallel to outer margin, and a diffused external border pale reddish cupreous: secondaries pale stramineous: thorax greyish white, the head and collar bright ochreous; abdomen pale stramineous. Under surface uniformly ochreous. Expanse of wings 32 millim.

North India.

APHENDALA, *Walk.*

Aphendala transversata. (Plate CII. fig. 8.)

♂. Aphendala transversata, *Walker*, *Cat. Lep. Het. Suppl.* ii. p. 495 (1865).

Pale brownish grey: primaries above sericeous, with a few scattered darker scales; a dark brown oblique line, bordered externally with pure white, across the basal third; a brown spot on the second median interspace, and a straight dark-brown line bordered externally by a diffused white band near the outer margin; outer margin narrowly edged with brown; fringe brown, traversed by two pale stripes. Under surface uniform brownish grey, rather darker than above. Expanse of wings 27 millim.

North India.

PHALERIDÆ.

PHALERA, *Hübn.*

Phalera raya. (Plate CIII. fig. 1.)

Phalera raya, *Moore*, *Cat. Lep. E.I. Comp.* ii. p. 433. n. 980 (1858–59).

Primaries above silvery grey, sparsely irrorated with black scales, the base and costal two fifths tinted with bronze-brown, excepting two spots in the discoidal cell; an interrupted subbasal black line, a second at basal two sevenths, a third line formed of an angulated series of black lunules just before the external fourth; a few longitudinal black dashes between the last line and the outer margin; a large subcuneiform costal reddish clay-coloured patch at apex, its inner margin bounded by the lunular black line, its outer margin with a zigzag white edge; fringe spotted with ferruginous; an oblique dusky patch at external angle, partly bounded internally by the last lunule of the third black line: secondaries sericeous greyish brown; fringe white, spotted with ferruginous: thorax red-brown varied with blackish,

silvery grey at the sides; abdomen blackish, with white or whitish bands, but the basal two thirds suffused with brownish ochreous. Under surface white, clouded with grey; fringe nearly as above: primaries with a submarginal undulated greyish suffusion bounding the outer border, which is pure white, and traversed near the margin by a series of depressed triangular black spots and a marginal series of black lunules. Expanse of wings 70 millim.

Darjiling (*Schlagentweit & Lidderdale*).

Phalera parivala. (Plate CIII. fig. 2.)

Phalera parivala, *Moore, Cat. Lep. E.I. Comp.* ii. p. 434. n. 983 (1858–59).

Primaries above smoky brown, with faint indications of numerous parallel darker lunulated lines; the base, the ordinary discoidal spots, and the external angle greyish white, varied with darker greyish and black; the interno-basal area blackish; a fairly distinct undulated brown stripe limiting the basal fourth; apical patch (of the left-hand wing) ˥-shaped, with undulated edges, extending from the subcostal to the second median vein, its inner border consisting of five confluent flesh-coloured lunate spots with whitish edges and black internal border, the remainder olivaceous, with slender paler outer edge; beyond this are four small olivaceous submarginal spots surrounded by whitish scales; fringe red, varied with ochreous and white and spotted with black: secondaries smoky grey-brown, with a slightly paler stripe beyond the middle, fringe white spotted with blackish: body testaceous, the frons, borders of tegulæ, and metathorax purplish brown; front of head and collar clear stramineous; tegulæ greyish white; abdomen brownish, especially towards the base, and banded with blackish grey. Primaries below smoky grey; a whitish costal spot at apical fourth; a submarginal series of olivaceous spots, followed and partly bordered by white scales, upon which are little black lunules which divide the white scales from a marginal series of white, yellow, and red ⊣-shaped markings; fringe beyond the marginal markings grey, speckled with white and regularly spotted with black: secondaries whity brown, with an arched greyish stripe beyond the middle and a tapering grey band near outer margin; fringe white, spotted with blackish: body below blackish; tarsi pale sandy whitish; anal half of venter pale testaceous, spotted with black at the sides; a ferruginous streak on each side of the anal segment. Expanse of wings 84 millim.

Darjiling (*Lidderdale*).

Phalera arenosa. (Plate CIII. fig. 3.)

Phalera arenosa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 66. n. 10 (1880).

Allied to *P. sangana*, but the whole ground-colour of the internal half of primaries pale sericeous sandy yellow, traversed by the ordinary undulated lines and spots, the costal half much darker, varied with slaty grey in the centre and at apex, the discoidal spots well defined; the secondaries greyer, with blacker external third; the head yellowish instead of

snow-white; the body black, with greyish lateral borders to the thorax, and greyish-white bands across the abdominal segments; anal segment pale cinereous. Primaries below blackish, with the usual pale markings: secondaries sordid white, with an abbreviated, oblique, crinkled, black stripe from the costa to the first median branch; a dusky discal nebula: pectus black; the legs with greyish fringes; venter sordid white, with lateral black bands continued from above. Expanse of wings 87 millim.

Darjiling (*Lidderdale*).

Phalera sangana. (Plate CIII. fig. 4.)

Phalera sangana, *Moore*, *Cat. Lep. E.I. Comp.* p. 433. n. 981 (1858–59).

Primaries above smoky brown, a little paler at base and on the posterior half of external area; the whole surface crossed by numerous undulated darker lines; discoidal spots indistinct, pale testaceous with brown centres; an interrupted black transverse line at basal fourth; a slender lunulated black line bounding the external area and forking from the third median branch to the costa; the area thus enclosed a little redder than the rest of the wing; three or four longitudinal reddish dashes beyond this area and a submarginal series of slender blackish lunules; the usual dusky spot from external angle to first median branch: secondaries smoky greyish brown, with darker external area; fringe tipped with white: head snow-white above; the frons, palpi, and thorax dark smoky brown, with black transverse lines; tegulæ greyish; abdomen brown with blackish-grey bands, anal segment paler. Primaries below smoky brown, varied with whity brown on apical area and with an interrupted submarginal streak of the same colour: secondaries creamy whitish, with an elbowed blackish band from before the middle of costa obliquely to beyond end of cell; a greyish nebula towards outer margin: body below whity brown, varied with creamy whitish. Expanse of wings 88 millim.

Darjiling.

Mr. Moore has omitted to describe the under surface of his new species—a practice by which the identification of species is too often rendered almost impossible. In the three species (*P. arenosa, sangana,* and *stigmigera*) here described, the banding of the under surface of the secondaries is very dissimilar, whereas the pattern of the wings on the upper surface is almost the same in all three.

Phalera stigmigera. (Plate CIII. fig. 5.)

Phalera stigmigera, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 66. n. 9 (1880).

Nearly allied to *P. sangana,* but the primaries shorter, broader, with large whitish reniform stigma; the orbicular spot placed nearer to it and very indistinct; the inner line of the central belt single and more irregular, rather nearer to the base; base of costa sprinkled with white scales; the external angle blackish, so that the spots which terminate the discal

stripe are somewhat obscured; the submarginal lunules whitish: body darker, with whiter anal segment and tuft. Under surface greyer, the blackish central fascia of the secondaries starting just before the middle of costa, abruptly elbowed (or almost broken) at the costal vein and thence running transversely to below the first median branch. Expanse of wings 86 millim.

Bhotan (*Lidderdale*).

GARGETTA, *Walk.*

Gargetta costigera. (Plate CIII. fig. 6.)

Gargetta costigera, *Walker*, *Cat. Lep. Het. Suppl.* ii. p. 455 (1865).

Primaries above testaceous, basal area to the middle clouded with slaty grey; internal, external, and apical fourth of costal borders blackish, densely irrorated with white; veins blackish, speckled with white; a narrow short black dash within the end of the cell; traces of two interrupted well-separated irregular lines before the middle; a widely arched series of partly white-edged black dots upon the veins beyond the middle; a submarginal and a marginal series of white dots also upon the veins; a slender marginal black line interrupted by the white dots; fringe tipped with greyish: secondaries smoky greyish brown, darker towards apex, veins terminating in a marginal series of white dots; fringe whity brown, spotted in the centre with darker brown: head and collar blackish brown, remainder of body greyish brown. Wings below smoky brown, with the interno-basal area and two bands beyond the middle paler, the inner band with a dentated blackish inner margin; secondaries with a narrow transverse blackish spot at the end of the cell: body below greyish brown. Expanse of wings 53 millim.

Darjiling (*Lidderdale*).

The affinities of this singular genus can only be definitely ascertained by rearing the larva; it, however, appears to have a good deal in common with *Phalera*.

CALLÆNIA, *Hübn.*

Callænia elongata. (Plate CIII. fig. 7.)

Callænia elongata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 67. n. 12 (1880).

Nearest to *C. chamomillæ*, the primaries considerably longer, of a dark cinereous colour, washed in front with brown and with black markings as in *C. chamomillæ*: secondaries sordid semitransparent white, with blackish veins, the costal area broadly washed with pale shining fuliginous brown; a rather broad darker brown external border; fringe white, intersected by an interrupted blackish line: thorax grey; the head blackish, a black crescent on each side of the hood and only separated by the central terminal point of the same; centre of thorax dusky; abdomen whity brown, with dusky dorsal ridge, anus greyish,

Primaries below shining fuliginous brown; secondaries white, with the costal and external borders fuliginous: body below greyish brown. Expanse of wings 57 millim.

Darjiling (*Lidderdale*).

MENAPIA, *Walk.*

Menapia xanthophila. (Plate CIV. fig. 1.)

Menapia xanthophila, *Walk. Cat. Lep. Het. Suppl.* ii. p. 462 (1865).

Primaries above bright, clear, golden ochre-yellow; the radial veins, a rather broad stripe from the base to the apex, five oblique series of small spots, and an abbreviated widely zigzag streak between the fourth and fifth series bright orange-ferruginous: secondaries pale purplish brown, with the costa and fringe pale testaceous: body testaceous; the head and prothorax washed with orange-ferruginous. Under surface pale ochreous, the discoidal areas slightly suffused with brownish. Expanse of wings 56 millim.

North India.

The stripe on the primaries varies in depth of colour; in some examples it is dark brown; the secondaries are also sometimes darker than in the type.

ANTHEUA, *Walk.*

Antheua discalis. (Plate CIV. figs. 2 & 3.)

Antheua discalis, *Walker*, *Cat. Lep. Het.* iii. p. 767. n. 4 (1855).

♂. Primaries above clear creamy stramineous; two unequal brownish lilac spots at the base of the median interspaces; a marginal series of small lilac-brown spots; fringe testaceous: secondaries creamy white: thorax creamy ochreous, washed at the back with greyish ferruginous; abdomen dull ferruginous, with the sides and last two segments dull cream-coloured. Under surface clear cream-coloured; pectus reddish ochraceous in front. Expanse of wings 49 millim.

♀. Altogether darker than the male, the primaries bright ochreous, sparsely dotted over with dark ochreous, with a single black scale in the centre of each spot excepting towards the base; spots on median interspaces larger than in the male, subconfluent; marginal lunules ferruginous, fringe greyish ferruginous: secondaries smoky greyish brown, whitish at the base: head bright yellow; thorax and abdomen pale orange-ferruginous, the sides of the abdomen white, with two series of black spots; anus white. Under surface of wings clay-brown; pectus ferruginous in front, venter whitish. Expanse of wings 47 millim.

North India, Moulmein, Burmah.

A very common and widely distributed species. The genus appears to me to belong to the Phaleridæ.

ZANA, *Walker.*

Zana lignosa. (Plate CIV. fig. 4.)

Zana lignosa, *Walker*, *Cat. Lep. Het.* vii. p. 1700 (1855).

Dingy whitish; primaries slightly browner at the margins; a bronze-brown band widening from base to apical half of outer margin, but interrupted from the end of the cell by a deeply dentated patch of creamy white; a black oblique line bounding the anterior edge of the brown band from the apex to the cream-coloured patch, where it turns acutely inwards, the base of the second and third median branches also black; a marginal series of black-edged pyramidal white spots, between which the external border is brown and black; fringe of secondaries spotted with black: centre of thorax tinted with testaceous; abdomen dull reddish ochreous, with whitish anal segment. Primaries below sericeous greyish white; secondaries white, with slightly yellowish borders; fringes black-spotted: pectus greyish; venter creamy whitish, with a lateral series of black spots. Expanse of wings 55 millim.

North India (*Capt. Boys*).

RAMESA, *Walk.*

Ramesa tosta. (Plate CIV. fig. 15.)

Ramesa tosta, *Walker*, *Cat. Lep. Het.* v. p. 1017. n. 1 (1855).

Primaries above ochreous; costal border purplish slate-coloured, emitting two stripes near the base, which pass through the radial interspaces to outer margin and are mottled with white; internal border broadly clouded with brown; an arched discal series of dark brown dots; a marginal series of black spots edged internally with white; fringe grey: secondaries pale smoky brown; fringe whitish; thorax rufous-brown in front, greyish behind; abdomen whity brown. Under surface pale sericeous greyish brown; pectus and legs darker smoky brown. Expanse of wings 37 millim.

North India, probably Assam.

HYPERÆSCHRA, *Butl.*

Hyperæschra pallida. (Plate CIV. fig. 6.)

Hyperæschra pallida, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 65. n. 8 (1880).

Whity brown; primaries chalky white, sprinkled with brown towards the inner margin and across the centre of the median interspaces; two irregularly zigzag widely divergent black-brown lines representing the central belt and enclosing a large white reniform spot; two longitudinal black streaks on the interno-median area from the base to the inner margin of the central belt; a black longitudinal streak, interrupted by the reniform spot, from the inner line of the central belt to the middle of the disk, where it joins a brown streak on the

outer margin; the costa near apex, a short dash beyond the top of the reniform spot, two subapical streaks, and an apical dash blackish brown: thorax reddish brown, greyish in the middle. Primaries and pectus on the under surface pale pinky brown: secondaries and venter stramineous, the latter darker than the wings. Expanse of wings 57 millim.

Darjiling (*Lidderdale*).

NYCTEOLIDÆ.

EARIAS, *Herr.-Sch.*

Earias frondosana. (Plate CV. fig. 1.)

Earias? frondosana, *Walker*, *Cat. Lep. Het.* xxvii. p. 204. n. 5 (1863).

Primaries above brilliant sericeous grass-green, crossed in the middle by two subparallel arched stripes of slightly darker green; a third abbreviated stripe near to outer margin towards the external angle: secondaries pearly greyish white, slightly brownish towards outer margin and at base of fringe; remainder of fringe, costa, and abdominal border pure white: thorax green; abdomen whity brown. Under surface silvery white; costa and external area of primaries and outer margin of secondaries suffused with cupreous; fringe of primaries greenish. Expanse of wings 21 millim.

North India.

TYANA, *Walk.*

Tyana callichlora. (Plate CV. figs. 2 & 3.)

♀. Tyana callichlora, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1776 (1866).

♂. Primaries above emerald-green, reticulated with whitish; base snow-white, edged externally with dark blood-red; margin of costa towards the base of the same colour; costal border and inner margin yellow; a dark blood-red spot at origin of first median branch; a marginal series of six elongated snow-white spots, edged internally with dark blood-red; fringe yellow, rosy at base: secondaries sordid white, clearer at the borders: head snow-white, with a red-brown band between the antennæ, which are dull rose-red with white edges to the joints; collar snow-white, with a red-brown line on each side in front; tegulæ snow-white, speckled behind with red-brown; thorax green, with a red-brown-edged white spot on each side at the back; abdomen whity brown. Under surface pure white. Expanse of wings 40 millim.

♀. Chiefly differs from the male in having a broad internally undulated sienna-red or chocolate-coloured external border, with yellow inner edge on the primaries, and in its larger and snow-white secondaries and abdomen. Expanse of wings 39–40 millim.

Darjiling (*Atkinson & Lidderdale*).

The two examples associated under this name by Mr. Walker are not, as he supposed, sexes of one species. Both are females, one of them being that sex of my *T. speculatrix*; curiously enough, the very considerable differences between the latter and Walker's species do not appear in the description.

Tyana speculatrix. (Plate CV. fig. 4.)

Tyana speculatrix, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 64. n. 6 (1880).

Primaries above bright green; costal margin very slenderly lilacine grey; a bright saffron-yellow basal spot, on which are two red dots; base of inner margin snow-white, subbasal portion of the same margin yellowish, crossed by a dark red angular marking; centre of the wing occupied by an oblique patch composed of three circular spots, the first and last stramineous with lake-red margins, the central one red sprinkled with ochraceous; fringe yellow at its base, excepting at apex (where it is dark red) yellowish externally: secondaries snow-white, sericeous; abdominal fringe of the male cream-coloured; front of head and base of antennæ rose-pink, vertex of head bright yellow; collar and tegulæ bright yellow, margined in front with plum-colour; thorax bright green; abdomen (cream-coloured in the male) with a basal red tuft just behind the thorax and between two snow-white tufts; antennæ brown, annulated with white. Under surface sericeous white: primaries pale greenish, yellowish towards the costal and external borders; the central patch pinky white: legs rosy in front; venter of the male cream-coloured. Expanse of wings, ♂ 38 millim., ♀ 35 millim.

Darjiling (*Lidderdale & Atkinson*).

Tyana chloroleuca. (Plate CV. figs. 5 & 6.)

Tyana chloroleuca, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1777 (1866).

Primaries above grass-green; a yellow and ferruginous spot at the base of the discoidal cell; a white dash terminating in a small diffused yellow spot, sprinkled with chocolate-brown scales, at base of inner margin; costal margin brownish; fringe yellow; two red-brown spots placed obliquely near the middle of the wing, in the female a faint brownish diffused streak between these spots: secondaries white, larger and more silvery in the female than in the male: head, collar, and tegulæ bright chrome-yellow, partly edged with orange-ferruginous; thorax green; abdomen pearl-white. Wings below silvery white; primaries with the tints of the upper surface slightly visible in certain lights; edge of costa brownish: body below whity brown; anterior legs and proximal half of middle tibiæ tinted in front with brownish flesh-colour. Expanse of wings, ♂ 36 millim., ♀ 34 millim.

Darjiling (*Atkinson & Lidderdale*).

Tyana pustulifera. (Plate CV. fig. 7.)

Earias pustulifera, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1773 (1866).

♂. Primaries sea-green; a conspicuous white spot bordered with blood-red at base; costal margin lilacine at base, but gradually changing to white towards apex; a short white streak terminating in a very indistinct reddish spot at base of inner margin; edge of inner margin creamy white; fringe of outer margin yellow: secondaries dull white: head, collar, and shoulders pale yellow, edged and divided by bright red lines; remainder of tegulæ and thorax green; abdomen brownish white. Under surface of wings silvery white; primaries slightly greenish: body below creamy white; front of anterior legs and proximal half of middle tibia blood-red; two yellow spots below the middle of the anterior tibiæ. Expanse of wings 41 millim.

Nepal (*Hardwicke*).

Tyana lancina. (Plate CV. fig. 8.)

Tyana lancina, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 65. n. 7 (1880).

♀. Wings as in *T. speculatrix*, excepting that there is no trace of the central patch on the primaries; head chrome-yellow, slightly pink in front, with a white band behind; collar and tegulæ chrome-yellow, with orange anterior margin; thorax yellowish green; abdomen snow-white, with a bright orange tuft in the centre at base; anal segment sordid white; antennæ pink. Primaries below sericeous greenish white, with the costal border tinted with pink; fringe cream-coloured, with an orange dot at apex: secondaries sericeous snow-white: body below cream-coloured; the anterior legs rosy-cupreous in front. Expanse of wings 38 millim.

Bhotan (*Lidderdale*).

Tyana falcata. (Plate CV. fig. 9.)

Hylophila falcata, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1772 (1866).

♀. Primaries above grass-green; costal margin purplish; fringe and outer margin pale yellowish green; a zigzag series of four red-brown dots in the middle of the wing: secondaries pure white: head and thorax green; abdomen pearl-white; palpi and antennæ white, barred with red-brown. Under surface white, the wings purer and more silvery than the body. Expanse of wings 31 millim.

Darjiling (*Russell & Lidderdale*).

DREPANULIDÆ.

CALLIDREPANA, *Feld.*

Callidrepana ochrea. (Plate CV. fig. 10.)

♂. General size and coloration of *Drepana hamula* ♀, which it greatly resembles, though the neuration of the primaries is quite dissimilar. Bright ochreous: primaries with two silvery-white dots placed obliquely at the extremity of the discoidal cell; an irregular stripe, slightly darker than the ground-colour, beyond the middle; a sericeous lilacine-greyish subcostal streak, widening towards apex, but only visible in certain lights; a darker lilacine-grey marginal patch, bounded internally by two black spots, below apex; a submarginal series of indistinct silvery spots enclosing minute blackish dots: secondaries with a silvery-white dot at the extremity of the cell; an ill-defined arched series of slightly silvery lunules beyond the middle and a submarginal series of silvery spots, some of which are faintly dotted with black: body duller than the wings; head red-brown. Under surface cream-coloured. Expanse of wings 30 millim.

Darjiling (*Lidderdale*).

AGNIDRA, *Moore.*

Agnidra specularia. (Plate CV. figs. 11 & 12.)

Fascelina specularia, *Walker, Cat. Lep. Het. Suppl.* v. p. 1553 (1866).

♂ ♀. Wings reddish testaceous, clouded with chocolate-brown and tinted here and there, but especially at the borders, with lilacine; a large hyaline whitish patch divided by red-brown veins in the centre of each wing: body lilacine-grey, varied with reddish brown; the front of head and antennæ chocolate-coloured; sides of abdomen clothed with testaceous hair. Under surface ochreous; all the wings with a blackish spot at the end of the cell, the hyaline patches ill-defined at the edge; a discal dark grey stripe, with a diffused patch of the same colour, confluent upon the first median interspace; fringe greyish brown. Expanse of wings 48 millim.

♂ var. Ground-colour of wings sandy testaceous, darker cloudings greyish instead of chocolate-brown; primaries more acute than in type.

Darjiling (*Russell & Lidderdale*).

Agnidra usta, sp. n. (Plate CVI. fig. 2.)

Allied to *D. duplexa*: wings above dull pale sienna-reddish, crossed by numerous ill-defined irregular greyish-brown lines; external border and angle of primaries clouded with the same colour; all the wings with a dark rounded slate-grey spot at the inferior angle of

the discoidal cell; a few greenish-white scales in each of these spots: body a little paler than the wings. Under surface sericeous sandy ochraceous, with a small rounded blackish spot at the inferior angle of each discoidal cell; primaries with the external area slightly dusky. Expanse of wings 43 millim.

Darjiling (*Lidderdale*).

DREPANA, *Schr.*

Drepana specularis. (Plate CVI. fig. 3.)

♀. Drepana specularis, *Moore*, *P. Z. S.* 1879, p. 407; *Lep. Ins. Ceylon*, ii. p. 120, pl. 124. fig. 2.

♂. Smaller than the female, the wings narrower and more produced, the primaries decidedly more falcate; all the markings, excepting the irregular patch across the centre of the primaries, much more strongly defined. Expanse of wings 53 millim.

♂, Darjiling (*Lidderdale*); ♀, Ceylon (*Thwaites*).

The female in the Museum collection has the apex of the primaries somewhat more produced than in Mr. Moore's figure; it measures 63 millim. in expanse.

AUZATA, *Walk.*

Auzata semipavonaria. (Plate CVI. fig. 1.)

Auzata semipavonaria, *Walker*, *Cat. Lep. Het.* xxvi. p. 1620 (1862).

Chalky white; wings with two parallel irregular pale greyish-brown stripes across the basal third; two just beyond the middle, followed by a series of dots and two undulated submarginal lines; primaries with a P-shaped patch upon the disk interrupting the post-median stripes, its upper part pale brown, with a white line in front and with the veins across it partly white, its lower part brown internally and black externally. Under surface sericeous, white; the subcostal area towards the base and the base of the costa pale brownish. Expanse of wings 42 millim.

North India.

MACROCILIX, gen. nov.

Allied to *Argyris*. Wings more transparent; neuration entirely different; primaries with four subcostal veins, but the first and second lying close together and emitted from a short footstalk, which originates at some distance before the end of the cell; third and fourth branches emitted from a long footstalk and forming a long fork to apex; radials emitted as in *Argyris*, but the discocellular veinlets forming an angle instead of a transverse line; second and third median branches well separated at their origins. Secondaries with much longer abdominal margin and consequently more oblique outer margin;

costal and subcostal veins running near together to some distance beyond the end of the cell, but not anastomosed at their origins; the costal vein separating abruptly from the first subcostal branch, so that to the naked eye it has the appearance of a forked vein; second subcostal vein quite straight; upper discocellular veinlet very long, with a short rectangular elbow where it joins the subcostal vein; lower discocellular short and nearly transverse; the radial and the second and third median branches nearly equidistant at their origins.

Macrocilix mysticata. (Plate CVI. fig. 4.)

Argyris mysticata, *Walker, Cat. Lep. Het.* xxvi. p. 1617 (1862).

Semitransparent sericeous white; wings crossed beyond the middle by an irregularly formed band, expanding at the extremities of the discoidal cells and at the inner margins, golden ochreous marked with silver at the wider parts, but pale smoky grey at the contracted parts; at the extremity of the cell of primaries the silvery marking is like a small **i** reversed, thus—ɿ; beyond the cell of secondaries are three silver dashes, one of which is transverse; towards the abdominal margin of these wings the band is not only expanded, but curved upwards along the margin almost to the base, and ornamented with metallic silver-white and black; it also passes downwards so as to enclose the anal angle (which is grey with darker white-edged marginal spots) and extends along the outer border almost to the radial vein, enclosing three submarginal black spots surmounted by lunules of the same colour; external area of primaries and upper half of secondaries traversed by two grey submarginal stripes divided by white veins: head, collar, and front of tegulæ snow-white; back of tegulæ bright ochreous, remainder of body golden olive, varied with pearl-grey and white at the sides; thorax with a white dorsal line. Under surface pearly white at the sides; wings with a smoky brown indication of the postmedian band and a submarginal series of dark grey spots on a snow-white border; body chalky white. Expanse of wings 44 millim.

Darjiling (*Lidderdale, &c.*).

CERURIDÆ.

HARPYIA, *Hübn.*

Harpyia liturata. (Plate CVI. fig. 7.)

Cerura liturata, *Walker, Cat. Lep. Het.* v. p. 988. n. 10 (1855).

♀. Primaries above silvery white; a black-edged zigzag grey band from basal third of costa to submedian vein or inner margin; two black dots placed obliquely below the submedian vein and a little nearer the base; four blackish costal spots at nearly equal distances apart; four more or less lunate blackish markings in an arched series from above the median vein to the middle of inner margin; two or three black linear markings at the end of the cell; a discal

series of lunules outlined in black across the disk, followed towards apex by an oblique irregular blackish-edged grey stripe and below this by two or three linear black markings; a marginal series of black dots; terminations of nervures blackish: secondaries with pale greyish-brown broad external border, and parallel to and near its inner edge a stripe of the same colour; veins beyond the cell blackish; fringe black, spotted with white: body greyish white, the thorax and posterior half of abdomen spotted and barred with blackish and dark grey; antennæ with blackish pectinations. Under surface white, clouded and banded with grey. Expanse of wings 62 millim.

Silhet.

BOMBYCIDÆ.

PRISMOSTICTA, *Butl.*

Prismosticta fenestrata. (Plate CVI. fig. 5.)

Prismosticta fenestrata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 68. n. 13 (1880).

Clay-coloured, washed with olivaceous, the secondaries towards apex and anal angle washed with red; two continuous nearly approximated pairs of dark brown lines, the inner one of the primaries incurved towards the costal margin, the outer one nearly straight and running to apex, near which it forms an inner boundary to a triangular hyaline spot; a dark brown litura on the discocellulars; primaries with the apical border chocolate-brown: body testaceous, tinted with olive; antennæ whitish. Under surface fulvous; the primaries with the external half and the secondaries with the external border washed with orange; markings as above; a greyish submarginal diffused stripe. Expanse of wings 48 millim.

Darjiling (*Lidderdale*).

NOTODONTIDÆ.

This family as originally formed contained a mixed assemblage of genera referable to three distinct groups—the Phaleridæ (a group allied to the Lasiocampidæ), the Ceruridæ (a family allied to the Drepanulidæ), and the true Notodontidæ (which hold a middle position between the Bombyces and Noctuites); until quite recently no attempt has been made to separate these families.

SOMERA, *Walk.*

Somera viridifusca. (Plate CIV. fig. 7.)

Somera viridifusca, *Walker, Cat. Lep. Het.* iv. p. 882. n. 1 (1855).

Primaries above grass-green, with a large patch in the middle and two or three ill-defined smaller patches on the disk greyish brown; eight dentated and zigzag blackish lines in pairs

crossing the wings at irregular intervals; a ninth less distinct line near the outer margin; fringe smoky brown, with three or four whitish spots on the apical half: secondaries smoky brown; abdominal border creamy whitish, clothed sparsely with brown hairs; costal border cream-coloured; fringe with whitish spots on apical half: thorax green, brown in the centre; a curved streak on each side towards the back of the collar and a lunule on each shoulder brown; antennæ brown, the base above white; abdomen brown. Under surface cream-coloured; the primaries, excepting at the base, along the costal margin, towards the outer and inner borders, washed with brown, but most strongly in the discoidal cell; front of palpi, pectus, and anterior femora brown. Expanse of wings 57 millim.

Silhet (*Argent*); Darjiling (*Lidderdale*).

The genus *Somera* appears to belong to the same group as *Stauropus*.

NADATA, *Walk.*

Nadata niveiceps. (Plate CIV. fig. 8.)

Trabala niveiceps, *Walker, Cat. Lep. Het. Suppl.* ii. p. 554 (1865).

Primaries flesh-coloured; a yellow-centred darker rounded spot at the end of the cell and two slightly darker but indistinct bands beyond the cell, the outer one angulated; a slender ferruginous marginal line, fringe white: secondaries pale stramineous, the interno-median area clothed towards the base with long ochreous hairs; an irregular flesh-coloured band beyond the cell, but not reaching the margins of the wing: head snow-white; antennæ ferruginous, white at base; pectus pinky white, the tegulæ, as usual, forming a prominent crest, their edges flesh-brown; abdomen ochreous, sides and anus white. Primaries below with the basal half pale ochreous, becoming quite white at the base, and shading off into the external half, which is of a pale pinky flesh-colour; a diffused rust-red stripe beyond the middle: secondaries creamy white, with the outer and inner margins slightly ochreous: body below white. Expanse of wings 101 millim.

North India.

Nearest to *N. cristata* of Japan.

The larva of the allied *N. gibbosa* is figured by Abbot, who recognizes the moth as a true Notodontid.

PORSICA, *Walk.**

Porsica ingens. (Plate CIV. fig. 9.)

Porsica ingens, *Walker, Cat. Lep. Het. Suppl.* v. p. 1823 (1866).

Primaries above testaceous; the central belt indicated by two reversed dentate-sinuate

* Without rearing this genus it would be difficult to decide with certainty its natural position, but in the structure of the antennæ it seems to agree best with members of the Notodontidæ.

blackish-edged white stripes enclosing three blackish costal dashes; an outlined white lunule at the end of the cell and two or three white-bordered blackish spots near the inner margin and bounded on each side upon the costa by an irregular elongated blackish patch; an irregularly sinuated whitish and blackish stripe across the basal fourth, connected below the cell with the inner border of the central belt by a blackish >-shaped marking; an imperfect white denticulated submarginal stripe, dividing a dark grey patch at external angle, which is continued as a grey external border and bounded by this stripe internally as far upwards as the lower radial vein; a marginal series of partly white-edged black spots, not extending to apex: secondaries grey, the basal half pale; a sinuous marginal line and the fringe whity brown: head and collar above black; antennæ dark brown; fringe of collar and remainder of body above whity brown. Wings below brown, a darker line beyond the cell followed by a broad darker discal belt, only separated from a dark external border by a narrow zigzag stripe of the ground-colour: body below pale brown; the front of pectus and venter and a central stripe blackish. Expanse of wings 54–56 millim.

Silhet (*Stainforth*); Darjiling (*Lidderdale*).

BESAIA, *Walk.*

Besaia rubiginea. (Plate CIV. fig. 10.)

Besaia rubiginea, *Walker*, *Cat. Lep. Het. Suppl.* ii. p. 459 (1865).

Primaries above whitish ochreous, clouded with grey beyond the middle and along the external border; basal half of the costal border marked with dark ferruginous dashes; an irregular zigzag ferruginous line (indistinct within the cell) across the basal third, its lower part thickened, enclosing whitish dots and almost united, by a longitudinal streak of ferruginous, to a trisinuated band of the same colour bounding the external area; the streak enclosing a whitish spot and the band a series of alternate ochreous lunules and whitish spots; four or five black marginal dots: secondaries and body greyish brown; fringe and anal extremity of abdomen pale. Under surface pale greyish brown; costal borders pale buff; front of pectus blackish. Expanse of wings 56 millim.

India.

OSSONOBA, *Walk.*

Ossonoba torpida. (Plate CVI. fig. 8.)

Ossonoba torpida, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1966 (1866).

Rufous-brown; primaries crossed by two grey-edged whitish lines, one across the basal fourth, the other, which is slightly sinuous and oblique, just beyond the middle, its upper extremity white and acutely in-angled; between these two whitish lines, which represent the

central belt, are an indistinct angulated greyish line and a white discoidal dot; beyond and parallel to the outer whitish line is an indistinct line paler than the ground-colour and immediately followed in the centre of the disk by a trifid blackish spot; veins on the disk whitish; an oblique trifid apical blackish stripe; a marginal series of blackish spots; fringe redder than the rest of the wing: secondaries with the basal half and abdominal border whitish. Wings below of a more rosy tint than above, the base creamy white; an oblique white dash just beyond the middle of the costa, indicating the commencement of the outer whitish line of the upper surface; a blackish nebula upon the disk: secondaries crossed by three dusky lines, the central one alone sharply defined, blackish and zigzag; a white dot at the end of the cell; abdominal border broadly creamy white: body below flesh-coloured. Expanse of wings 39 millim.

Darjiling (*Lidderdale, &c.*).

TARSOLEPIS, *Butl.*

Tarsolepis fulgurifera. (Plate CVI. fig. 9.)

Crino fulgurifera, *Walker*, *Cat. Lep. Het.* xiv. p. 1347. n. 4 (1857).

Primaries with the base, costal and apical areas whity brown, clouded with grey; one or two irregular dark brown subbasal lines; remainder of wing, with the exception of the outer border, rich olive-brown, bounded in front upon the third median vein by an elongate fusiform silver streak, and crossed in the centre by an oblique band, silvery white internally, but whity brown from before its centre to its extremity near the external angle; this band is intersected by a brown stripe almost black towards the base, but becoming abruptly paler before the middle, where an oblique blackish-edged pale line is emitted upwards to the median vein; a black streak is also enclosed in the pale band towards its lower extremity, and between it and the silver streak are several pale-bordered more or less blackish stripes; at the interno-basal angle of the dark-brown area is a tapering black stripe narrowly edged with whitish; the disk above the silver streak is ornamented with elongated hastate whitish streaks, partly bordered with black, enclosing black stripes and alternated towards the outer border by dark brown pyramidal streaks; external border whitish internally, then with a stripe of buff, followed by a dark-edged grey-brown stripe and a whitish marginal stripe; the fringe buff-coloured, tipped with white: secondaries with the basal half cream-coloured; a transverse smoky brown spot at the end of the cell; outer half dark fuliginous brown, with pale-bordered elongated black marginal spots; fringe cream-coloured: thorax pale brown, varied with flesh-colour and grey and crossed by more or less curved black stripes; abdomen cream-coloured, banded with blackish. Under surface cream-coloured, clouded and streaked with smoky brown: primaries with a marginal series of angular dark brown markings; secondaries with a large black spot at the end of the cell and a marginal series of small black spots. Expanse of wings 125 millim.

North India?

DAMATA, *Walk.*

Damata longipennis. (Plate CVI. fig. 10.)

Damata longipennis, *Walker*, *Cat. Lep. Het.* v. p. 1044. n. 1 (1855).

Primaries above silver, densely irrorated with black scales, but especially below the apex, where they produce the effect of a broad oblique grey belt bounded internally by an irregularly sinuated silvery discal line; this line is still further relieved on the costa and near external angle by large irregular black patches; two other somewhat similar though larger patches almost divide the wing at basal third; at the end of the cell is a silvery crescent, from which the black scales are absent; a marginal series of elongated black spots followed by bright red on the fringe: secondaries semitransparent white; costal border blackish, interrupted a little before the apex; veins grey; a marginal black stripe, interrupted by whitish dots at the extremities of the veins and followed by red on the fringe; a large black spot at anal angle and above it an oblique grey streak; abdominal area opaque white: body smoky brown, the head and collar blackish; the tegulæ white, with dark red internal fringe; abdomen with a whitish stripe at the sides. Costal half of primaries below suffused with brown; markings less distinct than above; costa with two white spots near the centre: secondaries with three angular blackish markings from the costal margin to the subcostal vein, in place of the blackish costal border of the upper surface: body below sandy brown, darker in front than behind. Expanse of wings 69 millim.

Darjiling (*Parry & Lidderdale*).

ICHTHYURA, *Hübn.*

Ichthyura argentea, sp. n. (Plate CII. fig. 12.)

General pattern of the genus: primaries silvery white, with the costal area greyish; a large reniform subbasal patch, its upper lobe bright mahogany-red, its lower lobe partly bright ochreous; a very oblique purplish slate-coloured band from costa before the middle to outer margin near external angle, interrupted within the cell by a large spot of dead-gold; the lower half of this band bounds the inferior margin of the usual large apical patch, which is bright golden cupreous, internally edged and traversed by ferruginous lines and brassy yellow externally, the one colour passing almost imperceptibly into the other; a few scattered brown scales along the inner margin; fringe dusky towards external angle: secondaries silvery whitish: head, collar, and base of abdomen white; thorax ochreous and red-brown; abdomen grey-brown. Under surface white; primaries clouded with grey and pale yellow. Expanse of wings 22 millim.

Darjiling (*Lidderdale*).

LOPHOPTERYX, *Steph.*

Lophopteryx saturata. (Plate CVII. fig. 1.)

Lophopteryx saturata, *Walker, Cat. Lep. Het. Suppl.* ii. p. 415 (1865), v. p. 1929 (1866).

Primaries above chocolate-brown, indistinctly and obliquely banded with grey; crossed at base by a short 3-shaped pale stripe with blackish margins, and the central area enclosed by two very irregular oblique stripes of the same character; reniform spot very oblique and slightly paler than the ground-colour; a subapical series of irregularly placed black dashes; fringes partly reddish and spotted with blackish at the extremities of the veins: secondaries pale brown; an oblong black patch at anal angle, bounded internally by a brown-edged whitish stripe and externally by the red-tipped grey fringe; palpi and collar greyish chocolate, centre of thorax and top of head red; abdomen smoky brown. Wings below pale smoky brown without markings: body blackish. Expanse of wings 45 millim.

Darjiling (*Atkinson, Russell, & Lidderdale*).

CALPE, *Treit.*

Calpe orthograpta, sp. n. (Plate CVII. fig. 2.)

♀. Coloration and general aspect of *Caroia lycormas* of the New World. Primaries above shining bronze-brown, transversely striated with paler lines; the basal area crossed by two slightly divergent oblique olive-brown stripes, diffused internally, but with pale bordered external edge; an elbowed stripe, similarly coloured, at the end of the cell, followed by two abbreviated more or less sigmoidal markings; a sharply defined oblique dark purplish-brown stripe edged externally with pinky white from inner margin beyond the lobe to apex; an interrupted ill-defined submarginal stripe upon which is a white spot; outer margin towards apex and apical fifth of costal border dark purplish brown; fringe of the same colour, but with a pale basal line dotted with white: secondaries pale smoky brown, with greyish external border; fringe pale buff at base: body coloured similarly to the wings. Under surface whity brown. Wings with spots at end of cells and a discal band greyish, confluent on the primaries. Expanse of wings 63 millim.

Darjiling (*Lidderdale*).

CYPHANTA, *Walk.*

Cyphanta xanthochlora. (Plate CVII. fig. 3.)

Cyphanta xanthochlora, *Walker, Cat. Lep. Het. Suppl.* iii. p. 856 (1865).

Primaries sea-green; costa dull ochreous; a black dot at the end of the cell; an elbowed pale band running from the base of the submedian vein to the inner border just beyond the

middle, whence it turns obliquely upwards and crosses the wing to the costa near apex; this band is lilacine grey from the base to the elbow, from which point it becomes pale brown externally; it is bordered on each side throughout and intersected by blackish lines: secondaries clear ochreous: head pale brown, palpi testaceous; collar green; thorax and tegulæ blackish brown; abdomen dull ochraceous. Under surface clear ochreous; all the wings with a black spot at the end of the cell and a brownish oblique streak across the disk; femora and tibiæ of anterior legs clothed with dark brown hairs. Expanse of wings 69 millim.

Darjiling (*Parry & Lidderdale*).

ORÆSIA, *Guén.*

Oræsia emarginata. (Plate CVII. fig. 4.)

Noctua emarginata, *Fabricius*, *Ent. Syst.* iii. 2, p. 240 (1793).
Oræsia emarginata, *Guénée*, *Noct.* ii. p. 363. n. 1203 (1852).
Oræsia tentans, *Walker*, *Cat. Lep. Het.* xii. p. 945. n. 7 (1857).

Primaries above rosy flesh-coloured; the costal border crossed by numerous olivaceous lunules, from some of which ferruginous and sinuated lines run across the wing; internal area and basal half of median interspaces suffused with steel-grey; a triangular patch of mahogany-brown below the median vein; three dark brown convergent lines from the sinuation of the inner margin to apex, the central line straight, bounded externally by a silvery streak, the two others irregularly undulated; the centre of the first median interspace (enclosed by the above-mentioned lines) mahogany-brown; the outermost of the three lines bounded externally by a tapering golden ferruginous band commencing at external angle and intersected by an undulated brown line; a cuneiform mahogany-brown patch on upper half of outer margin; fringe pale stramineous, indistinctly spotted with grey-brown: secondaries pale smoky brown, paler and sericeous on costa, with the veins and external border darker; fringe pale stramineous. Head and palpi ochreous, banded with vermilion; collar of the same colours, but with a lilacine greyish posterior border; thorax pale brown, suffused with lilac; abdomen smoky brown; primaries greyish, with the costal border and a diffused submarginal band more or less reddish buff-coloured; base whitish; a transverse dusky line crossing the costal border near apex: secondaries pale creamy buff; a discocellular lunule and a broad abbreviated submarginal band grey; pectus whitish; venter pale salmon-red. Expanse of wings 40–43 millim.

Darjiling (*Lidderdale*); Silhet (*Stainsforth*); Punjab, South India, Ceylon, Shanghai.

The type of *O. tentans* is only a brightly coloured specimen of *O. emarginata*; in form, pattern, and size it exactly corresponds with that species.

GADERA, *Walk.*

Gadera incitans. (Plate CVII. fig. 5.)

Gadera incitans, *Walker*, *Cat. Lep. Het.* xii. p. 964. n. 1 (1857).

Primaries above metallic coppery golden, with the exception of a broad central oblique belt and a somewhat cuneiform patch on upper half of external border, where the metallic colouring is more or less obscured by dull ferruginous and lilac-grey; two spots of tarnished silver, the upper one triangular and much larger than the other, placed obliquely upon the outer edge of the central belt: secondaries smoky brown, becoming darker at outer margin and slightly glossed with pink: head and collar testaceous; palpi greyish at the sides; the rest of the body above pale brown. Under surface uniformly smoky brown. Expanse of wings 42 millim.

North India?

CAREINÆ, *Moore.*

DABARITA, *Walk.*

Dabarita subtilis. (Plate CVII. figs. 6 & 7.)

Dabarita subtilis, *Walker*, *Cat. Lep. Het.* x. p. 479. n. 1 (1856).

♂. Primaries deep flesh-pink, crossed at basal third by a slender oblique olive-brown line; two closely approximated blackish lines running transversely from apical fourth of costa to external angle and bounded internally by a broad internally diffused tapering olivaceous band; external border tinted with olivaceous: secondaries sericeous white, tinted with reddish towards apex; apical fringe brownish: thorax a little browner than the primaries; abdomen sordid white at the sides, brownish in the centre; lateral anal tufts brown, tipped with black; primaries below silvery white, more or less suffused, excepting on costa and interno-basal area, with sandy reddish and pink; fringe tipped with black: secondaries snow-white, with the apical area sandy reddish; a black apical dot on the fringe; pectus snow-white; anterior and middle pairs of legs dark brown above; venter flesh-coloured. Expanse of wings 34 millim.

♀. Larger than the male; markings of primaries less defined. Expanse of wings 39 millim.

North India; Java (*Horsfield*).

SYBRIDA, *Walk.*

Sybrida inordinata. (Plate CVII. fig. 8.)

Sybrida inordinata, *Walker*, *Cat. Lep. Het. Suppl.* ii. p. 466 (1865).

Cupreous brown, with a slight tint of pink; primaries crossed near the middle by two white-bordered lines, widely separated on the costa, but converging and united below the first median branch so as to form a large Y-shaped character; a golden brown discocellular litura: secondaries greyish, excepting towards outer margin and on the costa, which is whitish; pectinations of antennæ and thorax greyish. Under surface of a more rosy colour than above all the wings crossed by a whitish-edged dark grey line. Expanse of wings 44 millim.

Darjiling.

It is a curious fact that the inner line on the primaries was evidently entirely overlooked by Walker. The genus is peculiar and its natural position must remain doubtful until the species has been bred.

ZENZERIDÆ.

ZENZERA, *Latr.*

Zenzera pusilla. (Plate CVII. fig. 9.)

Zeuzera (*sic*) pusilla, *Walker*, *Cat. Lep. Het.* vii. p. 1538. n. 23 (1856).

Primaries sericeous brownish white; the costal border and submedian area transversely striated with black; three black marginal dots near external angle: secondaries sordid white. Body and under surface sordid silvery white; markings of primaries below less defined than above. Expanse of wings 26 millim.

North India.

Zenzera conferta. (Plate CVII. fig. 10.)

Zeuzera (*sic*) conferta, *Walker*, *Cat. Lep. Het.* vii. p. 1536. n. 18 (1856).

♀. Pinky white, spotted all over (excepting a patch at end of cell on primaries), in the usual manner, with metallic green-black spots, which run into short striæ on the disks of the wings. Under surface less strongly marked than above. Expanse of wings 75 millim.

Silhet.

Zenzera leuconota. (Plate CVIII. figs. 1 & 2.)

Zeuzera (*sic*) leuconota, *Walker*, *Cat. Lep. Het.* vii. p. 1537. n. 20 (1856).

Wings above smoky greyish brown, reticulated with black and varied with dull white patches as follows:—primaries with the internal and part of the external border broadly and

irregularly white, the inner edge of the internal border being deeply and unevenly sinuated; the outer border interrupted by large marginal spots of the ground-colour, which are confluent above the third median branch, and completely divide it above the upper radial vein, the inner edge of this border irregularly zigzag; female with a large subquadrate patch from about the centre of the eosta to the median vein; a broad irregular and partly macular discal band and a quadrate apical patch, interrupted by a costal spot and a marginal dot of the ground-colour: secondaries with an irregular interrupted patch on the external border near the anal angle; abdominal area and base not reticulated with black; head, collar, and front of thorax black, tegulæ and remainder of thorax white; abdomen greyish black. Unde urface of wings brown, with the black reticulations less pronounced than above; the white markings confined to the margins of the wings and the apex of primaries: body below black. Expanse of wings, ♂ 122 millim., ♀ 170 millim.

♂, Silhet (*Stainsforth*); ♀, Darjiling (*Lidderdale*); ♀, Ceylon (*Templeton*).

This is one of the largest species in the family.

DUOMITUS, *Butl.*

Duomitus ligneus. (Plate CVIII. fig. 3.)

Duomitus ligneus, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5. vol. vi. p. 68. n. 14 (1880).

Pale sandy brown; wings sparsely mottled with black, most densely on the external area of primaries, where they form a series of ill-defined hastate streaks between the veins, increasing in length towards the inner margin, and interrupted by white circular spots more or less obscured by grey reticulations; several indistinct black internervular streaks between the subcostal branches; costal margin spotted with black: secondaries suffused with greyish fuliginous, with reddish-brown veins; fringe between the veins cream-coloured; a few indistinct, confused, submarginal whitish spots, similar to those on the external area of the primaries: thorax whitish at the sides, in front, and along the eentre, with black tufts behind the tegulæ; abdomen with blackish sides (except upon the last two segments) and a dorsal longitudinal blackish stripe; pectus black; tarsi sandy whitish; venter sandy yellowish. Wings below pale sandy brown, the markings less distinct than above. Expanse of wings 106–114 millim.

Darjiling (*Lidderdale*); Nias (*Schreiber*).

HEPIALIDÆ.

HEPIALUS, *Fabr.*

Hepialus marcidus. (Plate CVIII. figs. 4 & 5.)

Hepialus marcidus, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 69. n. 15 (1880).

Primaries above either pale buff or testaceous, mottled all over with greyish brown; a

broad interrupted central belt, spotted with little transverse dashes of the ground-colour, and with blackish spots across the centre, grey or greyish brown, sometimes becoming gravel-yellow upon the inner margin (where it is broken up into three or four unequal spots); a discal band, either grey or gravel-yellow, spotted in the centre with black; margin grey, sinuated internally: secondaries semitransparent greyish brown: body dark greyish brown, with testaceous anus; thorax sometimes reddish. Under surface greyish, the markings obsolete. Expanse of wings, ♂ 44 millim., ♀ 51 millim.

Darjiling (*Lidderdale*).

Hepialus pauperatus. (Plate CVIII. figs. 6 & 7.)

Hepialus pauperatus, *Walker*, *Cat. Lep. Het. Suppl.* ii. p. 593 (1865).

Upper surface smoky grey-brown; the primaries darker than the secondaries, blotched with creamy whitish along the inner border and at the base of the cell; the male also varied with ochraceous; an irregular oblique cream-coloured band crossing the wing beyond the middle, and enclosing the fourth of six parallel equidistant series of small black-edged white spots; head and collar browner than the rest of the body. Under surface uniformly grey. Expanse of wings, ♂ 44 millim., ♀ 60 millim.

♂, Darjiling (*Sadler*); ♀, India (*Hearsey*).

PHASSUS, *Walk.*

Phassus aboë. (Plate CIX. fig. 1.)

Phassus aboë, *Moore*, *Cat. Lep. E.I. Comp.* ii. p. 437. n. 990 (1859).

Dark fuliginous brown; primaries with the basi-internal third greyish, bounded externally by an oblique ill-defined cupreous-brown stripe; remainder of the wing crossed by series of more or less oval cupreous-brown spots, the edges of which are embossed, and by two sub-parallel pale embossed discal lines; a white dot at the inferior angle of the discoidal cell. Under surface without markings; posterior tibiæ with a tuft of yellow hair at the base. Expanse of wings 69 millim.

Darjiling.

Phassus signifer. (Plate CIX. fig. 2.)

Phassus signifer, *Walker*, *Cat. Lep. Het.* vii. p. 1568. n. 6 (1856).

Primaries above pale golden brown, changing to greyish olivaceous in the cell and towards the base; the basi-internal area, an oblong patch in the cell, a broad forked discal band, and a submarginal series of diffused patches silver-grey; the whole wing-surface ornamented

with striæ and small spots in outline of dark brown; an oblique tarnished silver dash at the end of the cell; costal border silver-grey, interrupted by nearly equidistant black-edged dark brown oval spots: secondaries blackish, with diffused brownish external border and costa, the latter crossed by several dark striæ: head and collar golden brown; remainder of body above darker. Primaries below dark rufous brown; the markings ill-defined, excepting upon the costa: secondaries and body nearly as above. Expanse of wings 150 millim.

Silhet.

Phassus damor. (Plate CIX. fig. 3.)

Phassus damor, *Moore, Cat. Lep. E.I. Comp.* ii. p. 437. n. 989 (1859).

Primaries above sericeous grey, indistinctly striated with darker lines; costal border ornamented with olive-brown spots; an oblique brown bar across the basal third of the cell, almost joining a reversed oblique band terminating in a large patch of the same colour in the centre of the wing; the upper edge of the latter margined with silvery white, which alone separates it from a ⌞-shaped marking, also of olivaceous brown, beyond the cell; two broad bands of slightly paler brown, the first crossing the disk from costa to inner margin and the second marginal: secondaries smoky brown, varied with darker spots towards apex, those nearest to costa being edged with whitish: thorax greyish brown; tegulæ darker brown, with a longitudinal black line; abdomen fuliginous brown. Under surface fuliginous brown: wings with cupreous reflections; costal border of primaries whitish, with rounded blackish spots arranged like those of the upper surface. Expanse of wings 87 millim.

Darjiling.

CYMATOPHORIDÆ.

THYATIRA, *Hübn.*

(Gaurena, *Walk.*)

There is absolutely no structural character to separate *Gaurena* from *Thyatira,* the species of *Gaurena* having even the little dorsal pencil of hairs common to *Thyatira batis* and allies. *Gaurena* was referred by Walker to the heterogeneous group of genera formerly associated as Bombycoidæ.

Thyatira florens. (Plate CIX. fig. 4.)

Gaurena florens, *Walker, Cat. Lep. Het. Suppl.* ii. p. 620 (1865).

Primaries above bronze-brown, crossed by irregular blackish lines, the first of which is close to the base and ≷-shaped, the lower angle being spotted with yellow and the lower extremity with white; immediately beyond this, upon the median vein, is a white spot; the

second line forms the outer margin of a partly white-bordered brassy yellow band; beyond this band the inner border is rather broadly yellow, interrupted by the irregular lines, and partly edged internally with silvery white; it expands at its extremity into a large wedge-shaped patch; costal margin dotted with yellow in the central area; discoidal spots silvery white; the "reniform" spot, which is oval, is tinted in front with yellow; a transverse yellow spot on costal area just beyond the cell, and a small white spot connected with it at its inferior extremity; a similar but larger apical spot; two white dots on the first median branch between the cell and the cuneiform patch; three white dots on the veins between the latter and the apical patch; a bifid yellow spot at centre of external border; a marginal series of silvery white lunules; fringe spotted with white, but with a yellow spot at apex: secondaries pale brown, with a broad diffused submarginal band; fringe greyish, with an olivaceous basal line: thorax dark olivaceous, the front of head and tips of tegulæ greyish; abdomen pale brown. Under surface whity brown: wings clouded with grey, excepting at the borders, which are sharply defined and partly macular; fringe spotted with whitish. Expanse of wings 43 millim.

Darjiling (*Atkinson & Russell*).

Thyatira florescens. (Plate CIX. fig. 5.)

Gaurena florescens, *Walker, Cat. Lep. Het. Suppl.* ii. p. 620 (1865).

Coloration of the preceding species; but the primaries with two unequal pale yellow spots placed obliquely near the base in place of the irregular band, the discoidal spots larger, the reniform spot more oblique; the subcostal spot beyond the cell rounded and with no small spot below and connected with it; the apical spot replaced by an oblique dash; the wedge-shaped patch at external angle rounded and broken up; the spot at centre of external border smaller; the under surface altogether of a more golden reddish tint, the grey clouding less pronounced and the pale borders partly obsolete and altogether less distinct. Expanse of wings 40 millim.

Darjiling (*Atkinson and Lidderdale*).

The rounded character of the markings on the primaries gives this species more nearly the character of the better known species of *Thyatira* than that of *T. florens,* which reminds one of *Prospalta.*

LEUCANIIDÆ.

LEUCANIA, *Schl.*

Leucania decissima. (Plate CIX. fig. 6.)

Leucania decissima, *Walker, Cat. Lep. Het. Suppl.* ii. p. 624 (1865).

♂. Primaries above extremely like *Leucania l-album* of Europe, but of a redder colour,

with the pale parts of the wing less pronounced and the ⌋-shaped marking shorter: secondaries with the whole disk, excepting towards the costal and abdominal margins, smoky blackish, with black marginal spots. All the wings below, excepting at the margin, sparkling metallic silver: primaries with the usual black costal spot beyond the cell. Expanse of wings 36 millim.

Darjiling (*Lidderdale, &c.*).

Nearest to *L. bistrigata*, the Indian form of *L. l-album*.

Leucania hamifera. (Plate CIX. fig. 7.)

♀. Leucania exsanguis, var.?, *Walker* (nec *Guén.*), *Cat. Lep. Het.* ix. p. 104. n. 62 (1856).
♂. Leucania hamifera, *Walker*, *Journ. Linn. Soc.* vi. p. 179 (1862).

Both sexes alike on the upper surface and much resembling the European *L. loreyi*, excepting that the primaries are of a pale flesh-brown tint, and that at the extremity of the main stem of the median vein there is a white ⌋-shaped marking, as in the preceding species: the secondaries also have a broad, diffused, pale brown border. On the under surface the male is entirely different, being densely sprinkled from the base to beyond the middle of the wings with sparkling silver scales, as in the preceding species, excepting that they cover less of the wing-surface. Expanse of wings 37 millim.

♀, North India; ♂ ♀, Sarawak, Borneo.

The true *L. exsanguis* of Guenée cannot be this species; it is said to resemble the Chilian *L. impuncta* (which *L. hamifera* does not), and it is distinctly stated to have no marking on the wings beyond the pale veins, and here and there a few badly defined black dots, which in well-marked specimens tend to form a double line; some little very fine black dots in front of the fringe, and at the apex an oblique pale streak. The female of *L. hamifera* is figured.

APAMIIDÆ.

PRODENIA, *Guén.*

Prodenia infecta. (Plate CIX. fig. 8.)

Prodenia infecta, *Walker*, *Cat. Lep. Het.* ix. p. 196. n. 12 (1856).
Prodenia insignata, *Walker*, *l. c.* p. 197. n. 14 (1856).
Laphygma squalida, *Walker*, *l. c. Suppl.* ii. p. 652 (1865).
Prodenia venustula, *Walker*, *l. c.* p. 654 (1865).
Var. Prodenia permunda, *Walker*, *l. c.* xi. p. 723 (1857).

Primaries above varying from cupreous-brown to black-brown; costa spotted to beyond the middle with black and whitish, dotted beyond the cell with white; a large whitish apical spot dotted with blackish at the apex; central band indicated by two pairs of zigzag blackish

parallel lines, between which is an oblique whitish patch partly enclosing the orbicular spot, which is stramineous and outlined in black; the reniform spot large and blackish, excepting its anterior border, which is pale stramineous; area between the outer line of the central belt and the external angle varied with more or less confluent white lunules; an irregular submarginal white line; a blackish patch upon the median interspaces between the outer line of the central belt and the submarginal line; a marginal series of black spots; fringe pale brown, traversed by two blackish lines: secondaries pearly white; veins brownish; costal and external margins with a narrow bronze-brown border: thorax dark brown; abdomen whity brown. Primaries below sericeous whity brown; costa spotted with lake-brown: secondaries with the borders paler than above; black marginal dots between the veins: body below reddish brown. Expanse of wings 34–38 millim.

North India, South India, Siam, Formosa.

Three of Mr. Walker's types were received in the same collection from North India. The type of *P. infecta* is paler, and that of *P. permunda* darker, than the others; but in pattern there is no variation whatever of the least importance.

Prodenia glaucistriga. (Plate CIX. fig. 9.)

♂. Prodenia glaucistriga, *Walker, Cat. Lep. Het.* ix. p. 197. n. 15 (1856).

Exact pattern of *P. retina* of Europe, of which it is probably a well-developed and brightly coloured form; it differs chiefly in its slightly superior size and the more clearly defined whiter markings on the primaries; the apical oblique dash is also of a bluer, more ash-coloured, tint. Expanse of wings 37–42 millim.

North India, Canara, Formosa.

As *P. retina* (with which *P. littoralis* from Madagascar is identical) occurs in Nepal, and probably throughout India and Africa, in Formosa, &c., there is no reason why *P. glaucistriga* should not prove to be a variety, but for the fact that specimens of this form have not been received from Africa. It agrees very closely with *P. commelinæ* of the New World, but the slight characters which distinguish the two appear to be constant.

NOCTUIDÆ.

EPILECTA, *Hübn.*

Epilecta semiherbida. (Plate CX. fig. 1.)

Triphæna semiherbida, *Walker, Cat. Lep. Het.* xi. p. 743 (1857).

Primaries above purplish brown; the basal third, costal border, centre of internomedian area, the two ordinary central and the submarginal stripes pale yellowish green; the subbasal, ordinary, and submarginal stripes outlined in blackish, and the discoidal spots in

black; the latter are brown, with greenish pupil and iris; costal margin spotted with black; a black subapical dash; a blackish-edged pale marginal macular stripe: secondaries bright ochreous, basi-abdominal area testaceous; costal border broadly smoky brown; a large spot at the end of the cell and a broad external border black: thorax pale greenish, the collar and tegulæ striped with brown; abdomen greyish brown. Primaries below whity brown and grey; discoidal and internal areas yellowish; a broad patch on the disk and an irregular subcostal streak confluent with it black: secondaries with the abdominal area ochreous, otherwise nearly as above. Expanse of wings 41 millim.

Darjiling (*Reid & Lidderdale*).

There can be no doubt that Capt. Reid's specimen was obtained at Darjiling.

ACONTIIDÆ.

LEOCYMA, *Guén.*

Leocyma cygnus. (Plate CX. fig. 3.)

Chasmina cygnus, *Walker*, *Cat. Lep. Het.* ix. p. 147. n. 1 (1856).

Shining snow-white; apical half of costal border of primaries, external border of these wings, and top of head slightly brownish; face flesh-coloured; tibiæ and tarsi of front legs ochreous, spotted with black. Expanse of wings 41 millim.

North India.

The genus *Chasmina,* founded by Walker for the reception of this and another species, was referred by him first to the Leucaniidæ, and subsequently to the Glottulidæ.

ACONTIA, *Ochs.*

Acontia judicata. (Plate CX. fig. 2.)

Acontia judicata, *Walker*, *Cat. Lep. Het.* xv. p. 1760 (1858).

Shining snow-white: primaries with four black costal spots at regular intervals, the first close to the base and the last at external third; the third of these spots continued obliquely downwards, by a testaceous line sprinkled with black scales, to the subcostal vein; the fourth spot forming the commencement of a slightly oblique and sinuous transverse discal testaceous line which extends to the inner margin; a marginal series of very delicate black dashes; fringe very long, traversed by two pale lines, the inner one testaceous. Primaries below with the last black costal spot and the marginal black dashes of the upper surface, but no other markings; front legs spotted with black. Expanse of wings 29 millim.

North India.

This species has much the aspect of a *Leocyma*; but differs in the form of its palpi, which are curved upwards to above the level of the head.

PLUSIIDÆ.

PLUSIA, *Ochs.*

Plusia ciliaris. (Plate CX. fig. 5.)

Plusia ciliaris, *Walker*, *Cat. Lep. Het.* xii. p. 928. n. 86 (1857).

Primaries bronze-brown; the veins on the basal third white; a white-edged blackish line close to the base; a forked, white-edged, grey, ⋋-shaped character, formed by the union of two abbreviated bands, on the basal half; reniform spot oblique, grey, partly black-margined, and with white edges; a slightly sinuous transverse discal white band, intersected by a dark-brown line; a very irregular submarginal whitish line; three closely approximated white marginal lines, the central one slightly undulated, the interval between it and the outer line black; fringe traversed through the middle by a sinuated white line, the sinuations blackish; costa beyond the middle spotted with white: secondaries whity brown, with a broad external border and the veins greyish bronze-brown: thorax dark grey-brown, crossed by series of curved white-edged dusky lines; abdomen whity brown. Under surface whity brown, the primaries suffused with greyish, excepting the outer border (which has a deeply dentated inner edge), the veins, and a cuneiform patch below the first median branch; costa spotted with whitish beyond the middle; a dusky stripe crossing the wing just beyond the cell; fringe creamy whitish, tipped with grey, and enclosing a series of triangular dusky spots: secondaries crossed by two ill-defined parallel dusky stripes: anterior tibiæ with whitish central and terminal spots. Expanse of wings 32 millim.

Nepal.

Plusia nigrisigna. (Plate CX. fig. 4.)

Plusia nigrisigna, *Walker*, *Cat. Lep. Het.* xii. p. 928. n. 87 (1857).

Coloration and general character of *P. circumflexa,* but the primaries more acuminate; the black subbasal dash absent; the white-edged grey patch on the dark submedian area replaced by a hook-shaped silver line and a small separate fusiform silver spot; the discal line more distinctly and continuously dentate-sinuate; the submarginal edging to the outer border more regularly undulated, not equally divided into brown and ash-grey as in *P. circumflexa,* but having a white external stripe from the subcostal to the first median branch; the black internervular dashes are also wanting. On the under surface the coloration is more uniform than in the above-mentioned species. Expanse of wings 40 millim.

North India (*Hearsey*).

The *P. circumflexa* of Walker's list has nothing in common with that described by Linnæus; the latter appears to be the *P. graphica* of Herrich-Schäffer (Noct. Eur. t. 108. f. 548), African examples of which are described by Walker under the name of *P. patefacta.* Haworth (Lep. Brit. p. 257) describes a *P. circumflexa* as occurring in Essex, and quotes

Donovan's figure of *P. flexuosa* (Brit. Ins. xii. p. 53, pl. 412); the latter is certainly not the Linnean species, but is probably intended to represent the species subsequently named *P. pulchrina* by Haworth.

Walker's *P. circumflexa* is that of Freyer, and is the *P. gutta* of Guénée, of which *P. virgo*, Motsch., is the Japanese representative.

HOMOPTERIDÆ.

BRIARDA, *Walk.*

Briarda decens. (Plate CX. fig. 6.)

♂ ♀. Briarda decens, *Walker*, *Cat. Lep. Het.* xiii. p. 1098. n. 1 (1857).

Primaries above whity brown, crossed by numerous, parallel, dentate-sinuate, grey-brown lines; a broad angular belt of black-brown near the base, its inner edge diffused, its outer edge undulated and margined with white; an ill-defined, irregular, black-edged grey-brown band across the middle; a truncated, subcuneiform, costal, subapical, smoky brown patch varied with whitish: secondaries pale sandy brownish, the external two fifths pale fuliginous brown, interrupted near the anal angle by two or three zigzag, abbreviated, whitish lines extending from the outer margin upwards towards the apex: pectus whity brown; head and collar darker sandy brown; a squamose blackish line along the posterior margins of the tegulæ; abdomen with greyish dorsal tufts. Under suface pale yellowish brown or sordid testaceous: the secondaries whitish, with a broad greyish-brown discal belt near outer margin: primaries with the apical area clouded with greyish brown; all the wings with slender, dusky, marginal line and blackish dots between the veins: tarsi barred with black. Expanse of wings 45 millim.

North India (*James*); Ceylon (*Thwaites*).

Briarda precedens. (Plate CX. fig. 7.)

♀. Briarda precedens, *Walker*, *Cat. Lep. Het.* xiii. p. 1098. n. 2 (1857).
♂. Briarda antecedens, *Walker*, *l. c.* p. 1099. n. 3 (1857).

Primaries whity brown, crossed by numerous, parallel, zigzag, darker reddish-brown lines; the external area suffused with brown, darker than the ground-colour, so as to render these lines indistinct; a dark-brown costal patch at base, on which the zigzag lines are black; a broad, oblique, truncated wedge-shaped patch from the costa almost to the first median branch, and enclosing two or three minute white spots; a nearly crescent-shaped subapical spot with dentated inner edge, a trisinuated line alone separating it from a small bifid apical spot in the female, though in the male these two spots are confluent, and a diffused streak forming a kind of continuation to the wedge-shaped patch, dark brown; a blackish spot near base of inner margin; a series of black dots attached to pale dots along the outer margin:

secondaries greyish brown with golden reflections; a broad darker external border: body whity brown; collar darker brown, with a curved black line on each side. Under surface whity brown with golden reflections: primaries with a greyish indication of the wedge-shaped patch of the upper surface and a greyish discal band: secondaries with a grey, almost marginal, band: all the wings with grey discocellular spots. Expanse of wings, ♂ 52 millim., ♀ 40 millim.

North India, Ceylon, and Sumatra.

The male is not figured, as there is no Indian example in the Museum series; it, however, chiefly differs from the female in its shape, which agrees with that of *B. decens,* and in its densely hairy legs and longer body.

CATEPHIIDÆ.

ARCTE, *Koll.*

(Cocytodes, *Guén.*)

Arcte nigrescens, sp. n. (Plate CX. fig. 8.)

Allied to *A. taprobana* of Moore (from Ceylon and Sumatra); decidedly larger: the primaries, with the exception of the apical patch, suffused with blue-black and sprinkled with bluish-white scales; the apical patch is also darker than in Moore's figure, or than a specimen in the Museum collection from Ceylon; outer margin more prominently denticulated: secondaries more prominently marked with bluish-white spots, and more distinctly suffused with greyish green than in the Ceylon species; apical area quite black: thorax longer and decidedly darker; abdomen much greener. Under surface smoky greyish brown, the costal, apical, and external areas sprinkled with white scales; black discocellular spots, followed by a well-marked arched black band; a submarginal series of black spots, with white >-shaped inner edges: primaries with a white longitudinal dash between the discocellular spot and the arched band: secondaries with this band somewhat bracket-shaped and partly edged externally with white dots; a large black patch at the anal angle: pectus bright ochreous; legs varied with grey and black; venter black, with five rows of primrose-yellow spots. Expanse of wings 84 millim.

Darjiling (*Lidderdale*).

CATOCALIDÆ.

CATOCALA, *Ochs.*

Catocala prolifera. (Plate CX. fig. 9.)

Catocala prolifera, *Walker, Cat. Lep. Het.* xiii. p. 1211. no. 62 (1857).

Allied to *C. elocata* of Europe, but the primaries decidedly broader; all the markings on

these wings blurred, those on the centre of the wing forming almost an 8 through the combination of two reversed angulated bands; the ground-colour pinky white densely irrorated with black, and the bands sprinkled with ochreous scales, which give them a dull greenish appearance, the bands themselves being of a bluish-grey colour, excepting the zigzag one near the base, which is whitish with blackish borders; the basal area itself bluish grey: the secondaries have no orange spots at apex, and the black band is almost rectangular (L-shaped on the left-hand wing): otherwise this species resembles *C. elocata.* Expanse of wings 91 millim.

North India (*Mrs. Mauger*).

Catocala concubia. (Plate CX. fig. 10.)

Catocala concubia, *Walker*, *Cat. Lep. Het.* xiii. p. 1210. n. 61 (1857).

Very near to *C. elocata*, but the primaries more uniformly granite-grey: the secondaries with the apex pure white, and with the black central band angulated externally and abbreviated at the first median branch; the whole of the fringe of these wings is also of a purer white colour. Expanse of wings 90 millim.

North India (*Mrs. Mauger*).

Catocala unicuba. (Plate CX. fig. 11.)

Catocala unicuba, *Walker*, *Cat. Lep. Het.* xiii. p. 1210. n. 61 (1857).

Perhaps only a variety of *C. nupta*; the primaries are, however, rather more smoky in tint, the markings a little less defined, and the pale patches better defined than in the European species; the fringes appear also to be rather shorter. On the under surface the white band across the disk is decidedly narrower, and the apex is grey instead of white: otherwise there is no difference. Expanse of wings 78 millim.

North India (*Mrs. Mauger*).

Walker says that "this species very much resembles *C. nupta*, but may be distinguished by the different form of the exterior line of the fore wings, and by the much more excavated band on the underside of the hind wings." Neither of these characters, however, proves to be of the slightest importance when more than one specimen of *C. nupta* is examined.

Catocala sponsalis. (Plate CXI. fig. 1.)

Catocala sponsalis, *Walker*, *Cat. Lep. Het.* xiii. p. 1213. n. 67 (1857).

Primaries above of various shades of stone-colour, grey, and olivaceous, crossed by the two usual black lines and other markings arranged as in *C. zalmunna* *: secondaries of a

* Ill. Typ. Lep. Het. iii. pl. xlvii. fig. 3.

bright rosy salmon-red, with the black band narrower than in *C. zalmunna,* but similarly formed; the black external border a little narrower, interrupted between the submedian vein and first median branch, and interrupted on the margin, by pink-tinted ochreous spots. Expanse of wings 63 millim.

Nepal (*Hardwicke*).

Walker noted the locality of this species as doubtful.

EREBIDÆ.

SYPNA, *Guén.*

Sypna mormoides. (Plate XI. fig. 2.)

Sypna mormoides, *Butler, Trans. Ent. Soc.* p. 202. n. 1 (1881).

Allied to *S. dubitaria,* but as large as *S. catocaloides.* Primaries above dark brown, with very faint lilacine tinge, traversed by numerous pale sinuated lines, the basal half crossed by two, irregular, black-bordered dark-brown bands; a third abbreviated black band, traversed by two irregular pale lines from the costa to the first median branch; a fourth slightly zigzag and undulated black band, traversed by an irregularly undulated pale line, across the disk; a submarginal series of white-pupilled black spots, followed by an undulated black marginal line; fringe dark brown, traversed by a basal, a central, and a marginal pale line: secondaries sericeous fuliginous brown; the disk crossed by four or five macular parallel discal stripes, which are obsolete towards the costa, but gradually increase in intensity towards the abdominal border, becoming quite black below the second median vein, where they are also rendered more prominent by a background of lilacine scales; a submarginal undulated black line, interrupted below the radial vein by a series of five white dots; the marginal black line and fringe as in the primaries: thorax above black-brown, irrorated and transversely striped with whitish; abdomen dark fuliginous brown. Under surface of primaries pale fuliginous brown, slightly yellowish; a subangulated blackish band immediately beyond the cell, followed by a sordid white band, which is again followed by a broad, curved, tapering, dusky belt; a sordid whitish spot just within the end of the cell; a submarginal series of black spots, pupilled externally with cream-colour; fringe traversed by an indistinct, slender, dusky line, and tipped with blackish: secondaries greyish brown, with faint pinky reflections; a large, dusky-bordered, whitish discocellular spot, followed by an arched indistinct greyish stripe, followed again by two arched undulated dusky discal stripes; external border broadly greyish; submarginal spots and fringe as in primaries. Expanse of wings 84 millim.

Darjiling (*Sadler & Lidderdale*).

Sypna umbrosa. (Plate CXI. fig. 3.)

Sypna umbrosa, *Butler*, *Trans. Ent. Soc.* p. 204. n. 8 (1881).

Coloration of *S. omicronigera*: primaries dark smoky brown, faintly shot to beyond the cell with violet, and crossed by three nearly equidistant, irregularly undulated and sinuated black lines, the second passing through the reniform spot, which is very indistinct and greenish grey; a submarginal series of small blackish-dotted whity-brown spots; apical third of costal margin spotted with pale buff; fringe spotted, and with a basal line of pale buff: secondaries pale brown, shining whitish towards the costa: thorax and dorsal abdominal tufts dark brown; abdomen and under surface pale brown. Wings below with broad dusky external borders: primaries with dusky costal border; secondaries with a small blackish curved anal dash. Expanse of wings 46 millim.

Shillong, Assam.

Sypna cœlisparsa. (Plate CXI. fig. 4.)

Sypna cœlisparsa, *Walker*, *Cat. Lep. Het.* xiv. p. 1262. n. 4 (1857).

Primaries above cupreous brown with purple veins; the whole surface sprinkled with sky-blue scales; markings very similar to those of *S. mormoides*, dark piceous brown and black; reniform spot narrow, pale, edged with a series of small blue dots: secondaries with the costal area broadly golden brownish, the abdominal two thirds similarly coloured to the primaries: body dark brown, the fringes of the tegulæ and base of abdomen a little paler; abdomen purplish. Under surface whity brown, with faint lilacine reflection: wings crossed by a narrow ill-defined smoky-brown band, a slightly wider well-defined arched band, and a broad discal belt, which on the secondaries is only separated by four or five spots from the outer margin: primaries with well-marked external border, on which is a submarginal series of small black crescents. Expanse of wings 53 millim.

Assam (*Warwick*).

Sypna pulchra. (Plate CXI. fig. 5.)

Sypna pulchra, *Butler*, *Trans. Ent. Soc.* p. 208. n. 19 (1881).

Primaries alternately banded with ochreous and blackish, the whole traversed by numerous, undulated, parallel, black lines; all the blackish bands and black lines brilliantly shot with green towards the base, and with purple beyond; external border pale golden buff towards apex; external angle dark brown just below the centre; a submarginal series of white-pupilled black dots; fringe varied with blackish: secondaries with basal half lilacine grey; costa cupreous whitish; external area blackish, shot with purple, edged internally and streaked at anal angle and on apical fringe with golden ochreous; submarginal dots as in

primaries: body pale. Under surface greyish, with whitish postmedian band enclosing a dusky stripe, and followed by a purplish-black tapering belt; external border buff; a series of white-dotted black submarginal spots: body buff; legs varied with grey. Expanse of wings 47 millim.

Darjiling (*Lidderdale*).

Sypna apicalis. (Plate CXI. fig. 6.)

Sypna apicalis, *Butler*, *Trans. Ent. Soc.* p. 206. n. 15 (1881).

Allied to *S. fumosa* and *S. catocaloides*. From the former it principally differs on the upper surface in its more pointed primaries and subangulated secondaries, the latter with a large marginal lunate creamy ochreous apical patch; on the underside, however, it is entirely different, and more nearly resembles *S. catocaloides*, being of a creamy-yellowish colour, the wings crossed by three black bands, slightly curved and converging towards the inner margin (which they do not, however, reach), angulated on the primaries and undulated on the secondaries, where the second and third are almost united from the middle upwards by a large subapical blackish blotch; an indistinct dusky line immediately beyond the third band, and a submarginal series of black dots: secondaries with two parallel black dashes at the end of the cell. Expanse of wings 53 millim.

Darjiling (*Lidderdale*).

Sypna tenebrosa. (Plate CXI. fig. 7.)

Sypna tenebrosa, *Butler*, *Trans. Ent. Soc.* p. 203. n. 4 (1881).

Allied to *S. martina* of Felder, but with the broad dark belt of the primaries interrupted by the veins; the discal band bounding the external area darker; the pale central belt of the secondaries obsolete; the external area paler in the male, darker in the female; the yellowish spots on the fringe of the male only visible towards the apex, those of the female broadly interrupted opposite to the median interspaces; the grey intersecting line also does not cross the yellow spots as in *S. martina*. The under surface seems to be entirely different: it is whity brown in the male, creamy whitish in the female, crossed beyond the middle of the primaries by an oblique belt, and at the middle of the secondaries by an arched belt of four alternately dark-brown and sordid white bands; the innermost band, however, is indistinct, particularly on the secondaries of the male, where it is also interrupted by a whitish discocellular lunule; a broad curved discal belt, smoky brown in the male, blackish in the female, its outer edge very irregular and forming two unequal projections to the outer margin on the secondaries; a submarginal series of lunate black dots; fringe with dusky tips: body below pale buff. Expanse of wings, ♂ 57 millim., ♀ 59 millim.

Darjiling (*Lidderdale*).

Sypna lucilla. (Plate CXI. fig. 8.)

Sypna lucilla, *Butler, Trans. Ent. Soc.* p. 206. n. 17 (1881).

Primaries above gravel-brown, crossed by blackish striæ and by a very broad and slightly irregular cream-coloured belt, which is interrupted upon the costa by a triangular black-speckled brown patch, and four or five dots in an oblique series just below it; a broad slaty-grey subbasal band, bounded externally on the inner margin by a small bluish-white spot; discoidal spots pure white, small; external area crossed by lilacine veins, a very irregular black line, followed by a submarginal series of black lunules, spotted externally with pale buff; fringe smoky brown: secondaries with the basal area to the central dusky line creamy yellowish, with brassy and opaline reflections, but the interno-median area densely clothed with pale-brown hair; a rather broad band just beyond the middle, its upper half creamy yellowish, its lower half pinky white, traversed (from the abdominal margin) by an abbreviated grey line; a broad tapering blackish discal band; external area testaceous, mottled with brown; submarginal markings and fringe as in the primaries; veins shot with lilacine: thorax whity brown; abdomen smoky brown, with whitish hind margins to the segments. Under surface creamy whitish: primaries with the costal and external borders and the apical area speckled with black; three blackish abbreviated stripes, the two first parallel and oblique, the third transverse and irregular; fringe dusky; a submarginal series of black dots: secondaries speckled with black, crossed in the middle by two slender undulated and obtusely angulated blackish lines; disk crossed by a slightly sinuous diffused blackish band; a submarginal series of black dots; fringe greyish towards the anal angle. Expanse of wings 57 millim.

Darjiling (*Lidderdale*).

Sypna obscurata. (Plate CXI. fig. 9.)

Sypna obscurata, *Butler, Trans. Ent. Soc.* p. 207. n. 18 (1881).

Nearly allied to the preceding species, but altogether considerably darker, the ground-colour of the primaries being of a ferruginous red tint, clouded with shining grey and mottled with black; the subbasal band is of a shining indigo-blue rather than slate-colour, and is barely distinguishable from the grey cloudings; the broad belt is dull greyish white, streaked with metallic green, and mottled here and there with black in the male; in the female it is scarcely paler than the rest of the ground-colour, but in both sexes its inner edge is considerably straighter than in *S. lucilla*; the reniform spot is sometimes represented by three white dots in a slightly curved series: the secondaries are cupreous brown, with pale costal border and the commencement of a pale central band; the latter is, however, almost lost as it reaches the radial vein; the other markings are altogether darker, the apex is spotted with buff; the body is much darker; the under surface much more densely mottled and distinctly banded with black. Expanse of wings, ♂ 51 millim., ♀ 57 millim.

Shillong and Darjiling (*Lidderdale*).

Subsequent to the publication of the description of this species (in the 'Proceedings of the Zoological Society' for 1883, p. 25) Mr. Moore described a species of *Sypna* under the name of *S. renisigna*; a comparison of the two types shows that the latter is a male intermediate between the males in the Museum Collection, and corresponding perfectly with the type specimen of the female of *S. obscurata*. As it is most improbable that three species are represented in the Museum series from Darjiling and Assam, *S. renisigna* will become a synonym of *S. obscurata*.

Sypna albilinea. (Plate CXII. fig. 1.)

Sypna albilinea, *Walker, Cat. Lep. Het.* xiv. p. 1261. n. 3 (1857).

Fuliginous brown with a slight golden reflection: primaries with the basal half olive-brown, banded and traversed near the base and in the middle by slender sinuous lilac lines; basal area also sprinkled with lilac scales; orbicular spot obsolete; reniform spot ill-defined, oblique, elongated, testaceous, interrupting the outer lilac lines; a dark brown costal spot edged with lilac just beyond the middle; external third suffused with lilac, especially upon the veins, sparsely irrorated with black, traversed by an ill-defined interrupted crenulated black line; an oblique internally bisinuated subapical black patch; a marginal series of small squamose marginal spots: secondaries with whitish basi-costal area and two pale bands, one just beyond the middle, the other abbreviated, submarginal; anal area crossed by undulating lines of lilac dark fuliginous and blackish, and sprinkled along the veins with lilac scales; three pale yellowish apical spots extending into the fringe: body brown; abdomen greyish, with the posterior margins of the segments lilacine. Wings below with pale greyish-brown basal area which is bounded externally by a fuliginous brown band, next to which is an arched white belt enclosing a blackish band; disk dark fuliginous brown: primaries with whitish external border enclosing a submarginal series of black lunules; fringe tipped with blackish: secondaries with a large whitish apical patch, divided by two or three fuliginous brown streaks, which extend into the fringe; a second patch, undivided, at anal angle: body below pale greyish brown. Expanse of wings 55 millim.

Silhet.

The name chosen for this species is singularly inappropriate, as there is not a white line on any part of it.

Sypna moorei. (Plate CXII. fig. 2.)

Sypna moorei, *Butler, Trans. Ent. Soc.* p. 209. n. 22 (1881).

Near to *S. rectilinea* and *S. achatina*; larger than the former and smaller than the latter; much darker than either; the lilacine white lines on the primaries more slender than in *S. achatina*, indistinct; the pale areas barely indicated: primaries with a distinct zigzag black discal line; a white orbicular point in the cell; submarginal spots black and white. Under surface as in *S. achatina*. Expanse of wings 56 millim.

Shillong, Assam.

OMMATOPHORIDÆ.

NYCTIPAO, *Hübn.*

Nyctipao exterior. (Plate CXII. fig. 3.)

Nyctipao exterior, *Walker, Cat. Lep. Het.* xiv. p. 1306. n. 7 (1857).

♀. Deep chocolate- or pitch-brown, with the ordinary ocellus and other markings of *N. caprimulgus*, but the pale irregular discal line bounding the external area replaced by a similarly formed but much wider snow-white band, which in some examples is widened on the secondaries to a broad belt and encloses a few smoky brownish spots : on the under surface it differs in the great size and snow-white colour of the spots across the disk of the wings, and the greater proximity of the series of small spots to the discal series, thus rendering them a second discal instead of a submarginal series; the external area immediately beyond the second series suffused and ash-grey. Expanse of wings 98–103 millim.

Silhet, Darjiling, and Tenasserim.

Nyctipao glaucopis. (Plate CXII. fig. 4.)

Nyctipao glaucopis, *Walker, Cat. Lep. Het.* xiv. p. 1306. n. 6 (1857).

Smoky olive-brown shot with purple; the ordinary ocellus rather large, with the iris a little broader than usual; ordinary lines wanting; indications of two partly parallel series of pale spots beyond the middle; the first two or three of the inner series on the primaries and of the outer series on the secondaries white. Under surface olive-brown, shot with purple; the wings crossed beyond the middle by a series of snow-white spots, the first five of the primaries and the first two on the secondaries considerably broader than the others. Expanse of wings 109 millim.

Silhet.

OPHIUSIDÆ.

OPHIUSA, *Guén.*

Ophiusa conficiens. (Plate CXII. fig. 5.)

Ophiusa conficiens, *Walker, Cat. Lep. Het.* xiv. p. 1432. n. 29 (1857).

Primaries above dark chocolate-brown, crossed obliquely from the costa before the middle to the inner margin by a nearly straight white band and from the costa at apical fourth to the inner margin near the external angle by a slender tremulous angulated and sinuous creamy yellowish line; external border creamy yellowish, the margin indicated by a slender

blackish line, preceded by a series of small black dots: secondaries olive-brown, crossed from the middle of costa to near external angle by a slightly tapering creamy whitish band; a black patch, preceded by two cream-coloured dots and some scattered blue scales, at anal angle; an almost marginal cream-coloured streak; fringe cream-coloured: thorax brown, abdomen greyish. Under surface greyish fuliginous, crossed by two central and two undulated submarginal dusky lines; outer margin and fringe whitish; a slender blackish marginal line; primaries with creamy whitish internal area. Expanse of wings 53 millim.

North India.

Ophiusa properata. (Plate CXII. fig. 6.)

Ophiusa properata, *Walker, Cat. Lep. Het.* xiv. p. 1433. n. 31 (1857).

Primaries dark olive-brown, crossed before the middle by a broad lilacine greyish belt constricted towards the centre and internally edged with white; a very broad undulated lilacine grey external border, its inner margin very slenderly edged with white; a large internally white-edged blackish apical spot, below which is a white-edged black >-shaped marking: secondaries lilacine greyish with whity-brown basicostal area; a slender whitish band, followed by a fuliginous brown nebula, crosses the wing before the middle; fringe near the apex snow-white: body brown. Under surface greyish brown, more or less suffused and banded with rufous-brown: primaries with the apical two-fifths of fringe whitish; secondaries with a white patch on the fringe as above. Expanse of wings 47 millim.

Darjiling.

FOCILLIDÆ.

AMPHIGONIA, *Guén.*

Amphigonia comprimens. (Plate CXII. fig. 7.)

Amphigonia comprimens, *Walker, Cat. Lep. Het.* xv. p. 1540. n. 5 (1858).

Greyish stone-colour; primaries crossed obliquely at basal fourth by four brown spots, the second to fourth enclosing small ochreous >-shaped characters; a differently shaped but similarly coloured spot at the end of the cell, an angulated and sinuated grey oblique stripe beyond the cell; an irregular lunulated ochreous streak, bounded internally by three black-edged silvery white lunules and externally by a purplish-brown patch, across the disk; a submarginal series of dark brown dots and dashes: secondaries with a grey lunule at the end of the cell, followed by an angulated and sinuated grey stripe; external area ochreous excepting towards apex and bounded internally throughout by a series of brown-edged ochreous lunules; an ill-defined brown submarginal line, followed nearer to the margin by a series of dark brown dots and dashes. Head, front of thorax, and back of abdomen ochra-

ceous. Under surface pale sandy brownish: wings with grey discocellular lunules followed by two grey lines, the first indistinct nearly central, the second better defined, subangulated, dentate-sinuate, followed upon the primaries by a stramineous belt which does not extend above the upper radial vein; beyond this band the wing is grey-brown to the margin: secondaries with a zigzag grey submarginal line; a large apical patch and the fringe brown; palpi crossed by grey lines. Expanse of wings 53 millim.

Silhet.

THERMESIIDÆ.

THERMESIA, *Hübn.*

Thermesia creberrima. (Plate CXII. fig. 8.)

Thermesia creberrima, *Walker, Cat. Lep. Het.* xv. p. 1574. n. 24 (1858).

Testaceous: wings crossed by seven or eight badly defined zigzag greyish lines; a pale yellowish line crosses the wings in a straight line from about the apical fourth of the costa of primaries to beyond the middle of the abdominal margin of secondaries; this line is edged externally with a line of deep rufous-brown and a band of paler rufous-brown, which is bounded again by one of the zigzag lines; a submarginal series of blackish points, between which are marginal points arranged in pairs. Under surface stramineous: the primaries darker than the secondaries; orbicular spots represented by blackish dots; reniform spots represented by blackish annular markings; two subparallel blackish zigzag lines beyond the cell, the first of which lines on the primaries stops short at the discocellular spot; a series of blackish dots across the disk; submarginal and marginal series as above; pectus pearl-white, the legs pale sandy yellowish, barred with grey. Expanse of wings 45 millim.

Silhet.

EROSIIDÆ.

EROSIA, *Guén.*

Erosia himala. (Plate CXII. fig. 9.)

Erosia himala, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 221. n. 50 (1880).

Snow-white: primaries above with the basal half crossed by two separated, oblique, parallel, black stripes; a slightly oblique smoky-brown stripe from the costa to the external angle; an abbreviated submarginal black line; costal margin dotted with black; fringe brownish at the base: secondaries traversed by an elbowed black line parallel to the abdominal margin; a large, oblique, pyramidal discal patch from just above the first subcostal branch to near the outer margin, ochreous with smoky brown extremities, its base excavated; subapical area striated with brown; a marginal, black, sinuated line connecting the caudal denticles;

a large, marginal, black spot at the extremity of the second median branch; fringe traversed by a blackish line: anterior legs blackish internally. Wings below sordid towards the base: primaries with the black lines on basal half ill-defined; external third brownish, flecked with darker striations: secondaries with creamy external area; fringe traversed here and there by a blackish line; a small black spot near the extremity of the second median interspace: body below sordid white. Expanse of wings 34 millim.

Darjiling (*Lidderdale*).

EUSCHEMIDÆ.

CELERENA, *Walk.*

Celerena divisa. (Plate CXIII. fig. 1.)

Celerena divisa, *Walker*, *Trans. Ent. Soc.* 3rd ser. i. p. 72 (1862-64); *Cat. Lep. Het. Suppl.* i. p. 166 (1864).

Chrome-yellow: primaries with the apical third ash-grey, bounded internally by an arched black band; a short angular black band from the costa before the middle, across the end of the cell to the first median branch; a grey costal streak from this band to the base: secondaries with a broad grey external border, bounded internally by an arched black band: primaries below with a black instead of grey costal streak; the black band across the end of the cell abbreviated and partly replaced by grey; a broad clavate grey streak on the first median branch, extending to the arched black border of the grey apical area. Expanse of wings 74 millim.

Silhet (*Stainsforth, &c.*).

EUSCHEMA, *Hübn.*

Euschema proba. (Plate CXIII. fig. 2.)

Euschema proba, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 120. n. 17 (1880).

Pale sericeous bluish grey, with purple bands and spots as in *E. pugnataria* of Java, but the bands more slender; antennæ pale red-brown, with blackish pectinations; front of head flesh-tinted with purplish central spots; back of head, collar, and thorax slightly greenish, and therefore more sordid in tint than the wings; addomen bright cadmium-yellow, greyish spotted with purple in the centre towards the base; centre of pectus and venter bright cadmium-yellow; legs and sides of pectus greyish, the legs touched here and there with purple. Wings below slightly greenish; the internal area of primaries washed with purple; a subapical costal whity brown streak. Expanse of wings 69 millim.

♂, Borneo; ♀, Darjiling.

This species is most nearly allied to *E. malayana*, but the abdominal border of the secondaries is not spotted with bright yellow as in that species.

PANÆTHIA, *Guén.*

Panæthia iridicolor. (Plate CXIII. fig. 3.)

Panæthia iridicolor, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 227. n. 63 (1880).

♂ ♀. Wings above pale emerald-green, crossed in the middle by a broad angulated and widely sinuated chrome-yellow belt; a widely undulated discal stripe, white internally and yellow externally; external border washed with yellow, the veins and a series of internervular longitudinal rays beyond the discal stripe blue-black: primaries with a large and nearly complete annulus at the base, its inner edge yellow and its outer edge white; a small spot at the base of the costal border and a curved transverse line on the discocellulars blue-black: secondaries with the upper half of the discocellular slightly blackish: body bright yellow; frons greenish, bright green just in front of the antennæ, the latter testaceous with the scape white; posterior margins of abdominal segments silvery white. Under surface pure white; primaries with a dark-green line on the discocellulars. Expanse of wings 59 millim.

Darjiling (*Lidderdale*).

This beautiful and delicate species is nearer to *P. hemionata* of Guénée, from North China, than to any other known species; it is, however, entirely dissimilar in colour to any moth yet described.

URAPTERYGIDÆ.

URAPTERYX, *Leach.*

Urapteryx primularis, sp. n. (Plate CXIII. fig. 4.)

Urapteryx picticaudata, *Butler (nec Walker), Journ. Linn. Soc., Zool.* vol. xvii. p. 198. n. 3 (1883).

Nearest to *U. sciticaudaria*; but considerably larger, of a bright primrose-yellow colour, with broader bands across the wings, and with the disk of the wings more strongly striated with brown; the caudal process on the secondaries comparatively broader and shorter. Expanse of wings 63 millim.

Nepal; Darjiling (*Russell, &c.*).

In the Supplement to his Catalogue Mr. Walker wrongly identified a Darjiling example of this species with his *U. picticaudata*, and remarked—" This and *U. sciticaudata* (sic) are varieties of one species, and are connected by *U. multistrigaria* with *U. sambucaria*."

U. multistrigaria is a white species, and belongs to the same group as *U. maculicaudaria* of Japan and not to the *U.-sambucaria* group, so that it does not form a connecting-link between the present species (which Walker had before him) and *U. sambucaria*, or *U. sciticaudaria* and *U. sambucaria*; indeed the two latter are, as Walker says, " closely allied, but the former may be distinguished by the additional line on the fore wings, and by the longer tails of the hind wings."

The true *U. picticaudata* was described from a specimen in the collection of the late Mr. W. Wilson Saunders, received from Sarawak. It is described as being 22 lines (*i. e.* 46 millim.) in expanse of wings, and is therefore 8 lines (or 17 millimetres) smaller in expanse than the N.E. Indian species; it is further described as being yellowish white, as having deep-red fringes, subfalcate fore wings, two black-and-red spots at the base of the tail, and the top of its head brown—all of which characters readily distinguish it from *U. primularis*, and prove it to be much more nearly allied to *U. multistrigaria*.

Urapteryx sciticaudaria. (Plate CXIII. fig. 5.)

Urapteryx sciticaudaria, *Walker*, *Cat. Lep. Het.* xxv. p. 1480 (1862).

Pale brassy stramineous: the primaries crossed by two oblique, widely separated, and slightly converging golden-brownish bands, between which is a narrower and shorter band of the same colour; a fourth transverse narrow band or stripe crosses the disk; it is, however, formed, unlike the others, by a combination of fine hair-like grey lines; costa crossed by slender blackish hair-like lines; a slender blackish marginal line; fringe golden brownish: secondaries crossed by a single very oblique abbreviated central band; a few hair-like grey lines form a second scarcely perceptible band across the centre of the disk; a slender blackish marginal line; fringe orange, with a narrow pale basal line; a pale grey band across the base of the tail, on which are two oval spots, the anterior one reddish orange, the posterior one black: abdomen and entire under surface, excepting the fringes of the wings, creamy whitish. Expanse of wings 60 millim.

North India?

Urapteryx clara. (Plate CXIII. fig. 6.)

Urapteryx clara, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 120. n. 18 (1880).

Allied to *U. podaliriata*: wings white, sericeous, with the fringe red internally and grey externally: primaries triangular, the costal border crossed by fine black striations; the central third of the wing enclosed between two slightly divergent golden-brownish stripes; a slender line of the same colour halfway between them at the end of the cell; a few fine scattered testaceous striæ upon the subapical area: secondaries with the submedian vein and a stripe nearly parallel to it (running straight from the subcostal furca to the first median branch, and thence curving inwards to the abdominal margin) golden brownish; a few scattered striations of the same colour upon the disk and a streak of it above the tail, limited externally by a grey-and-black line and a dot of the same colours; tail distinctly shorter and wider than in *U. podaliriata*, and with red fringe. Wings below white, more or less cream-coloured; markings obsolete. Expanse of wings 57 millim.

North-east Himalayas (*Lidderdale*).

THINOPTERYX, *Butler.*

Thinopteryx nebulosa. (Plate CXIII. fig. 8.)

Thinopteryx nebulosa, *Butler, Journ. Linn. Soc., Zool.* vol. xvii. p. 203. n. 4 (1883).

Near to *T. delectans* of Japan, but larger; the markings, and especially the external borders, mottled with orange; the yellow spots on the primaries forming a less distinct band and less central; there are also two blackish lines across these wings as in *T. crocopterata*, but less strongly defined, and the discocellulars are dark; the disk of the secondaries is always crossed by a more or less defined curved series of orange spots, and the border is interrupted by a blackish patch extending into the tail. Expanse of wings 69–71 millim.

East India, Silhet.

This species evidently represents *T. delectans* in India. It was regarded by Kollar as a variety of *T. crocopterata*; it is, however, more nearly allied to *T. prætoraria.* Although it is possible that all three may eventually be proved by breeding to be forms of one species, there is at present no reason for assuming that such is the case; all are represented in both sexes, and can readily be distinguished.

ENNOMIDÆ.

Under this family members of several quite distinct groups were associated by Messrs. Guénée and Walker. The family is typically represented by genera having the outer margins of all the wings more or less angulated—by which character alone can the Ennomidæ be distinguished from the Urapterygidæ. Up to the present time, however, a number of genera of Oxydiidæ and Œnochromiidæ have been referred indiscriminately to either family, some to the Urapterygidæ and others to the Ennomidæ.

EPIONE, *Dup.*

Epione gynopteridia. (Plate CXIV. fig. 1.)

Epione gynopteridia, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 123. n. 23 (1880).

Sandy yellow: primaries sparsely striated with ferruginous, and crossed by a slightly darker central belt bounded by angulated ferruginous lines, which diverge towards the costa; apex (not including the fringe) ferruginous: secondaries with the basal area sparsely mottled with grey; a central triangular band of testaceous, partly edged with grey and partly with ferruginous; apical border and one or two streaks at the anal angle testaceous; a small black dot on the centre of the second median interspace: head and sides of abdomen golden yellow; collar testaceous; antennæ brown. Under surface golden yellow: wings mottled with ferruginous, and crossed near the middle by a dark ferruginous line bounding internally a diffused and irregular copper-red belt; fringe testaceous: primaries crossed near the base

by an angulated dark red-brown line: palpi and anterior coxæ ochraceous; legs with the tibiæ and tarsi testaceous. Expanse of wings 34 millim.

North-east Himalayas (*Lidderdale*).

Has the general aspect of the genus *Gynopteryx*.

ENDROPIA, *Guén.*

Endropia lugens. (Plate CXIV. fig. 2.)

Endropia lugens, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 123. n. 25 (1880).

Olivaceous; wings transversely striated with whity brown: primaries with two widely separated angulated olive-brown lines, edged with lilacine white, and diverging towards the costa; between these lines an interrupted olive-brown diffused stripe; an interrupted discal zigzag lilacine-white line, the sinuations of which are filled here and there internally with blackish; one or two lilacine spots on the outer margin; fringe tipped with lilacine: secondaries with no inner olive-brown line: head white; palpi and sides of abdomen orange; antennæ greyish brown. Under surface deep gamboge-yellow, the wings sparsely striated with reddish ferruginous, and crossed by a broad discal belt of the same colour, limited internally by a sharply defined plumbaginous and dark ferruginous straight line, externally sinuated and partially bounded by diffused plumbaginous patches; fringe as above; a black dot at the end of each cell: primaries with an indication of an angular red line at basal third. Expanse of wings 40 millim.

Darjiling (*Lidderdale*).

GARÆUS, *Moore.*

Garæus cruentatus. (Plate CXIV. fig. 3.)

Garæus cruentatus, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 124. n. 26 (1880).

Closely allied to *G. mactans* *, but the primaries acuminate and with distinctly sinuated outer margin, as in *G. specularis* †; in colour it is considerably darker, blood-red mottled with blackish; crossed by a blackish discal stripe enclosing a grey line, and with a grey zigzag submarginal line: primaries with an irregularly zigzag subbasal blackish line, followed upon the costa by two widely separated oblique blackish dashes: secondaries with three or four widely separated yellow dots; a hyaline white dot near the base of the first median interspace: thorax greyish brown, rosy at the back; collar grey; abdomen sordid rose-red. Under surface fuliginous brown, striated with darker brown, and sprinkled with grey scales

* *Endropia mactans*, Butler, Ill. Typ. Lep. Het. iii. pl. xlviii. fig. 3.

† Moore, P. Z. S. 1867, pl. xxxii. fig. 3.

(particularly the secondaries); a grey-edged dark brown discal line, and a zigzag grey submarginal line: secondaries with two or three scattered fulvous dots. Expanse of wings 39 millim.

North-east Himalayas (*Lidderdale*).

Garæus costatus, sp. n. (Plate CXIV. fig. 4.)

Curiously like *Ellopia* in pattern and *Plutodes* in general coloration. Wings above rufous-brown, covered with minute pale striations: primaries with the costal and external borders very irregularly and unequally lemon-yellow; discoidal cell on the edge of and below the costal border irrorated with plumbaginous scales; a large irregular apical grey patch bounded on two sides by the yellow borders and between them by a diffused streak of ferruginous; its upper edge (where it is bounded by the costal border) irrorated with plumbaginous scales; an ill-defined brownish streak across its centre: secondaries paler than primaries, with the apex and apical fringe yellow; a few marginal subapical plumbaginous scales: head, collar, and shoulders lemon-yellow; remainder of body above pale brown. Under surface brownish grey; with sulphur-yellow borders, as above: primaries with a narrow oblique blackish streak from the origin of the second median branch to near the external angle; a nearly transverse blackish subapical band connecting the two yellow borders: secondaries with a bifid subapical blackish patch, followed by an ill-defined smaller patch of blackish scales. Expanse of wings 46 millim.

Darjiling (*Lidderdale*).

This beautiful species, although different in pattern from the other known forms of *Garæus*, agrees structually with it.

ORSONOBA, *Walk.*

Orsonoba pallida. (Plate CXIV. fig. 5.)

Orsonoba pallida, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 125. n. 28 (1880).

Allied to *O. clelia,* but much smaller, the outer margin of the primaries much less sinuated, not at all so below the third median branch; altogether paler, the prevailing colour being creamy white; costal half of primaries grey, the markings very nearly as in *O. clelia*; all the bands testaceous, the oblique dashes across the costal border of the primaries blackish brown: secondaries with the hyaline spot at the end of the cell elongated, transverse, margined with testaceous instead of black. Expanse of wings 48 millim.

North-east Himalayas (*Lidderdale*).

The true position of the genus *Orsonoba* must at present remain doubtful; though its general resemblance to the females of *Hyposidra* renders it possible that it has been correctly placed in the Ennomidæ, it nevertheless possesses features characteristic of the Erosiidæ

among the Pseudo-Deltoids and of *Hydata, Amilapis,* and such-like genera of Macariidæ. Without a complete study of the whole of the genera in each family, it would be impossible to arrive at a satisfactory conclusion on this point.

RUMIA, *Dup.*

Rumia sulphurea. (Plate CXIV. fig. 6.)

Rumia sulphurea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 123. n. 24 (1880).

Primaries above bright sericeous sulphur-yellow, mottled with grey; the base of costa, two subbasal bands diverging from one point at the inner margin and (with the costal border) forming an irregular annulus, the centre of inner border and a discal series of irregular ill-defined spots decreasing in size from inner border to costa, an irregular reniform spot, and a few small ill-defined spots on the costa ferruginous: secondaries paler yellow, with a small dark-brown discocellular spot; a series of small grey dots beyond the middle of the disk, indistinctly united by a slender undulated line of the same colour; external area, particularly towards the anal angle, mottled with ferruginous: thorax bright sulphur-yellow; shoulders and palpi ferruginous; abdomen paler. Under surface bright sulphur-yellow; markings paler than above. Expanse of wings 44 millim.

Darjiling (*Lidderdale*).

OXYDIIDÆ.

This family differs from the Ennomidæ principally in such characters as separate the latter from the Urapterygidæ; the wings, instead of being angulated, are rounded, and the apex of the primaries is acute and often projecting beyond the outer margin, rendering the wings more or less falcate. In these characters the family corresponds closely with the Œnochromiidæ, with which (as well as with the two other groups above mentioned) it has been confounded; but the absence of a radial vein in the secondaries at once distinguishes it from that family.

LITBADA, *Walk.*

Litbada sericaria. (Plate CXIII. fig. 7.)

Litbada sericaria, *Walker, Cat. Lep. Het. Suppl.* v. p. 1571 (1866).

Form of *Oxydia*: wings sericeous, with a slender oblique silvery-white line, edged with brown from apex of primaries to just below the middle of abdominal margin of secondaries; the ground-colour up to this line greyish testaceous and beyond it yellowish brown: primaries with a second undulated partly white-edged brownish line across the basal third: body testaceous, the thorax pale, the abdomen greyish. Wings below transversely and

indistinctly striated with grey: primaries up to the oblique line golden brown, beyond it partly golden brown and partly greyish testaceous, with an oblique whitish band from the middle of this line to the external angle; internal border whitish: secondaries with the line differently formed from that of the upper surface, oblique to the third median branch, and thence arched and incurved to the abdominal margin; area up to the line pale greyish testaceous, beyond it creamy whitish, with an internally diffused subapical undulated grey stripe and a grey streak at anal angle; fringe golden brown: body below whitish. Expanse of wings 63 millim.

Silhet.

METOXYDIA, gen. nov.

In form, style of coloration, pattern, neuration of the wings, and size of the body precisely similar to *Oxydia*: the structure of the head is, however, entirely different; it is larger, with much shorter and thicker palpi; and the antennæ, instead of being simple as in *Oxydia*, are strongly pectinated from the base for fully two thirds of their length.

Metoxydia calamina. (Plate CXIV. fig. 7.)

Oxydia calamina, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 121. n. 21 (1880).

Stramineous, wings more or less tinted with olivaceous: primaries covered with minute grey striations, with three oblique equidistant costal olivaceous dashes, followed by a fourth rather nearer to the third; the first of these dashes forms the commencement of an irregular dusky subbasal line; an oblique angulated ill-defined blackish line from inner margin, where it commences in a blackish streak, to apex, where it terminates in a greyish-white furcate character resembling the letter **y**; disk beyond the oblique line clouded with olivaceous, and marked with a large rounded greyish-white spot and an oblique dash of the same colour; external area whitish in the centre; an ill-defined blackish apical marginal line; fringe ferruginous: secondaries speckled with dark grey, crossed near the base by a very ill-defined zigzag greyish line; disk crossed by a pale-bordered greyish line: head and antennæ black; abdomen very pale. Wings below golden sandy yellow, speckled with black, crossed by two black lines corresponding to those of the upper surface, but sharply defined and bordered here and there with ferruginous: primaries with the apex grey above the black line; costal dashes ferruginous, more or less black-speckled; black discocellular dots to all the wings: legs and venter black-speckled; knees and tarsi blackish. Expanse of wings 59 millim.

Darjiling (*Lidderdale*).

ELLOPIA, *Treit.*

Ellopia pulchra. (Plate CXIV. fig. 8.)

Ellopia pulchra, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 124. n. 27 (1880).

Allied to *E. formosa*, but half as large again and somewhat different in pattern: wings sericeous grey: primaries with the costal border, including two cuneiform patches of nearly equal size, the subapical fringe and two spots near the base of the second median interspace gamboge-yellow; subcostal area, base, and a broad oblique belt (only separated by an oblique dusky line from the basal area) laky purplish, densely mottled with orange; a discal series of three or four purplish-edged orange spots between the second median branch and the inner margin: secondaries with sericeous-white costal area; abdominal area mottled before the middle with laky cupreous; a tapering, externally diffused, reddish-orange streak from the abdominal margin to the end of the cell, confluent, at its commencement, with a broad external border of the same colour, but which gradually breaks up into little reddish striæ as it recedes from the anal angle towards the costa: body laky red; vertex of head and antennæ sulphur-yellow. Under surface sericeous creamy whitish; the markings of the upper surface seen indistinctly through the wings: primaries with sulphur-yellow costa and ochraceous subapical area; subapical fringe golden yellow; rest of fringe and externo-discal area cupreous: secondaries with the external border cupreous or dull golden. Expanse of wings 56 millim.

North-east Himalayas (*Lidderdale*).

OMIZA, *Walk.*

Omiza pachiaria. (Plate CXIV. figs. 9 & 10.)

Omiza pachiaria, *Walker*, *Cat. Lep. Het.* xx. p. 247 (1860).

Wings above bright chrome-yellow, mottled with grey, but much less strongly in the male than the female; an oblique brown dash at basal third of costa; an acutely elbowed oblique brownish line across the disk; discocellular spot grey, oval and suffused with yellow in the male, rounded and with reddish centre in the female; an apical spot, golden brown in the male and grey in the female, in both sexes irrorated with pearl-grey scales; a rounded spot of golden brown near the centre of external area in the male, in the female replaced by ferruginous mottling which passes into a large patch of this colour, filling up the lower half of the external area; in the female also the basal area is broadly tinted with ferruginous: secondaries crossed in the middle by a brown line, the upper half of which in the female is replaced by greyish ferruginous mottling, the external half of the wings in this sex being also almost entirely filled up with this colour: body pale yellow, more or less suffused with grey. Wings below bright gamboge-yellow, mottled with bright ochreous

and testaceous in the male and with greyish ferruginous in the female; the pattern on the primaries in both sexes and of the secondaries in the female nearly as above, but much darker and brighter in colour: secondaries in the male with scarcely a trace of the central line: body below yellow, the posterior half of the venter greyish in the male and bright ferruginous in the female. Expanse of wings 56–57 millim.

Darjiling (*Lidderdale, &c.*).

The genus *Omiza* is interesting from the fact that the females have pectinated antennæ just as well developed as in the males.

PHŒNIX, *Butl.*

Phœnix iris. (Plate CXIV. fig. 11.)

Phœnix iris, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 122. n. 22 (1880).

Purple, sericeous: wings transversely striated with lake-red, and crossed from apex of primaries to abdominal margin of secondaries by a regular oblique pale-green band enclosing a sap-green stripe; fringe dull lake-red: secondaries with the costal area pale brick-red: abdomen with the sides reddish and crossed by a pale yellowish band; head red-brown; antennæ with black pectinations. Under surface bright brick-red; wings striated with grey; fringe brown: primaries with white internal area; an abbreviated and ill-defined oblique greyish streak from the apex. Expanse of wings 40 millim.

Darjiling (*Lidderdale*).

ŒNOCHROMIIDÆ.

DECETIA, *Walk.*

This genus was described by Walker (Cat. Lep. Het. xx. p. 232) as belonging to the family Ennomidæ, the type being *D. capetusaria,* also described by the same author as a *Drepanodes* under the name of *D. circulataria*; two other species of *Decetia* were described by him under the names *Gynopteryx numicusaria* and *G. subobscurata,* and a fourth as a new genus—*Auzea,* with the specific name *rufifrontata.*

A short time since Herr Buchecker, of Munich, discovered that the species of the genus *Sarcinodes* (Œnochromiidæ) possessed a radial vein in the secondaries—a character which proves to be common to the genera of Œnochromiidæ, and to them alone (so far as is at present known) amongst the Geometrites.

As the genus *Decetia* has a radial vein in the secondaries and corresponds in other respects with the Œnochromiidæ, it has been necessary to remove it to this family.

Decetia arenosa. (Plate CXIII. fig. 9.)

Decetia arenosa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 121. n. 19 (1880).

Primaries above sandy yellow, densely irrorated with minute grey striations, which, however, are less numerous upon the centre of the disk, where there seems to be a yellowish belt tapering towards the costa and enclosing two or three rounded grey spots; two pale-edged gravel-reddish parallel oblique lines—the first subbasal, the second central and extending at its upper extremity almost to the apex: secondaries greyish brown, with darker striations and four conical dark grey discal spots in a straight line; costal area dull white; a dull gravel-red line across the basal third: thorax sandy greyish; abdomen of the same colour in the centre, but with orange sides and anus. Wings below grey, with bright ochreous borders; body orange. Expanse of wings 48 millim.

North-east Himalayas (*Lidderdale*).

Decetia rufifrontata. (Plate CXIII. fig. 10.)

Auzea rufifrontata, *Walker, Cat. Lep. Het.* xxv. p. 1487 (1862).

Greyish brown, the wings with numerous slightly darker transverse striations: primaries crossed obliquely by two nearly parallel dark lake-brown stripes, the inner one slender, subbasal, edged internally with plumbaginous scales, the outer one a little broader beyond the middle, both acutely inangled from subcostal vein to costal margin; a series of more or less fusiform white spots across the disk just beyond the outer stripe, and an arched subapical series of smaller white spots; two brown spots placed obliquely below the middle of the disk; a minute blackish dot at the end of the cell; costal border towards apex bright lake-brown, enclosing a line of plumbaginous scales: secondaries with the costal half pure white; abdominal half crossed before the middle by a straight lake-brown stripe, beyond which are five short white dashes on and between the veins; several blackish markings between these white dashes and the outer margin, the latter black, intersected by a slender white line; face and palpi bright carmine-red; top of head and thorax pale greyish brown; abdomen blackish, with testaceous anal tuft. Wings below white: primaries with the basal area brownish; costal margin and apex reddish ochreous; two parallel grey oblique lines beyond the middle: secondaries testaceous at the base; an abbreviated grey line from the abdominal margin to the median vein; external border brownish, fringe blackish: pectus whitish, the anterior legs carmine in front; venter blackish, ochraceous at the sides. Expanse of wings 52 millim.

Darjiling (*Hearsay, Lidderdale, &c.*).

SARCINODES, *Guén.*

Sarcinodes debitaria. (Plate CXIV. fig. 12.)

Auxima debitaria, *Walker, Cat. Lep. Het.* xxv. p. 1527 (1862).

Wings above golden testaceous, clouded with grey and rosy brownish; speckled and indistinctly striated with blackish; crossed near the base by a dark greyish line, 3-shaped in the primaries, but straight in the secondaries; a second line, bordered internally with pearl-white, runs from the apex of the primaries to the external third of inner margin and thence across the middle of the secondaries; a very indistinct and much interrupted external border of rosy-greyish striæ, which only coalesce to form a definite border towards the external angle of the primaries; on these wings also there is a blackish dot at the end of the cell: body whity brown, with the antennæ, tegulæ, and abdomen slightly rufous. Under surface whity brown, striated with grey-brown, the wings crossed by two unequally defined bands and an equally broad external border of grey and greyish brown; a series of black dots on the veins between the two bands: venter slightly rufous. Expanse of wings 58 millim.

Darjiling (*Lidderdale, &c.*).

Sarcinodes restitutaria. (Plate CXV. figs. 1 & 2.)

Auxima restitutaria, *Walker, Cat. Lep. Het.* xxv. p. 1527 (1862).

♂. Bright reddish castaneous glossed with rose-pink, crossed from apex of primaries to middle of abdominal margin by a brown-edged, silvery line, bounded internally by a band, which gradually expands towards costa of primaries, of a deeper and brighter tint than the ground-colour; basal third of the wings paler and more pink than the rest of the ground-colour, excepting a zigzag stripe beyond the silvery line and a diffused submarginal streak: on the secondaries the zigzag stripe is dotted here and there with white points, and between the subcostal branches is partly obscured by a dark grey patch: thorax rufous-brown, greyish at the back; abdomen sandy testaceous, with the anal segment flesh-coloured. Under surface of wings sandy testaceous, irrorated with grey and tinted here and there with pink, crossed near the middle by an oblique mahogany-brown stripe, beyond which they are more or less deeply tinted with sienna, this colour is, however, deepest towards the outer margin of the secondaries; a series of black points upon the veins at a short distance beyond the oblique stripe, and halfway between this series and the outer margin a series of whitish points also on the veins; fringe mahogany-brown. Primaries with a sienna-brown spot upon the third median branch, and two unequal blackish costal spots near the apex. Body below flesh-pink. Expanse of wings 74 millim.

♀. Larger than the male, with all the testaceous and sienna colouring replaced by pale golden olivaceous and leaden grey. Expanse of wings 77 millim.

Darjiling (*Lidderdale, &c.*).

Var. ægrota. (Plate CXV. figs. 3 & 4.)

♂. Much smaller than the typical form, olivaceous brown instead of reddish castaneous, and with a much more feeble rosy reflection; the markings, however, exactly similar. Expanse of wings 63–72 millim.

♀. Nearly as large as the typical form, but with all the darker parts golden testaceous and the paler parts whitish. Expanse of wings 75 millim.

Darjiling (*Lidderdale*).

This form was well represented in Dr. Lidderdale's collection, and was kept separate from typical *S. restitutaria*; there can, however, be little doubt, from the identity of its pattern with that of Walker's species, that it is at most not more than a seasonal form.

Sarcinodes equilinearia. (Plate CXV. figs. 5 & 6.)

Mergana equilinearia, *Walker, Cat. Lep. Het.* xxi. p. 292. n. 1 (1860).

Silvery whitish or pink; wings crossed by parallel oblique and nearly equidistant olivaceous or red-brown stripes, three across the primaries and two across the secondaries, the third with a clear gamboge-yellow inner edge; halfway between the third stripe and the outer margin is a zigzag olivaceous line, the outer angles of which are filled with a white dot and terminate in a black point; the external area (bounded by the third oblique stripe) is, in the pink variety, tinted with golden brown, and the costal border deep dull red: thorax in front and head brownish. Under surface of wings with grey-speckled whitish basal area, sometimes tinted with pink, bounded by an oblique brown line; remainder of wing grey, clouded with yellow and olivaceous, darkest in the pink variety; a series of blackish dots on the veins at a short distance beyond the oblique line. Body below whitish or flesh-pink. Expanse of wings 60–65 millim.

Silhet and Darjiling.

AMPHIDASIDÆ.

AMPHIDASYS, *Treit.*

Amphidasys contectaria. (Plate CXV. fig. 7.)

Amphidasys contectaria, *Walker, Cat. Lep. Het.* xxvi. p. 1529 (1862).

♂. Sericeous white, minutely striated with testaceous; wings crossed in the middle by an irregularly sinuated pale ochreous stripe; a sharply defined black stripe angulated on the lower radial of primaries and the discoidal fold of secondaries, and followed by a belt of pale ochreous spots; a marginal series of pale ochreous lunate spots more or less black-speckled

on the primaries; these wings are also crossed towards the base by an ochreous belt edged externally by a well-defined black stripe, and the costal border is striated with blackish: face testaceous, a black stripe between the eyes; antennæ sienna-red, the pectinations tipped with pencils of whitish hair; collar almost entirely ochreous. Under surface whitish, a black-speckled ochreous spot at the end of each discoidal cell; other markings obsolescent. Expanse of wings 76 millim.

Darjiling (*Hearsay & Lidderdale*).

CHORODNA, *Walk.*

Species of this genus were described by Mr. Walker under the three families Urapterygidæ, Ennomidæ, and Boarmiidæ; the genus is, however, nearly allied to *Hemerophila*, and should therefore be placed with the Amphidasidæ.

Chorodna metaphæaria. (Plate CXV. fig. 8.)

Cyclidia metaphæaria, *Walker*, *Cat. Lep. Het.* xxv. p. 1482 (1862).
Erebomorpha semiclusaria, *Walker*, *l. c.* p. 1552 (1862).

Primaries above sericeous greyish white, the base and a very irregular subbasal band testaceous, the latter bounded by a whitish stripe partly edged externally with black; an oval transverse black annulus at the end of the cell; an arched dentate-sinuate central testaceous line, its lower extremity bounding a large rufous cuneiform patch on the inner margin, this patch is bounded externally by a sharply defined sigmoidal submarginal line and is crossed by whitish striæ and an oblique, slightly sinuated, partly black-edged, white-elbowed stripe, which runs across the disk to the costa; external area becoming pure white from about the middle to the external angle; two or three black marginal dots towards apex: secondaries greyish brown, striated with grey; base white; an abbreviated brown stripe from abdominal margin before the middle; a small cuneiform annular black marking at end of cell; a broad angulated pale olivaceous belt across the disk, its inner edge bounded by a series of black dots on the veins, its outer edge by the external area, which is white excepting at apex; one or two nearly marginal black spots: head grey-brown; thorax cream-coloured, ochraceous in front; abdomen grey, with pale ochreous anal tuft. Under surface of primaries white and grey, with the pattern of the upper surface ill-defined: secondaries with the basal two thirds grey, irrorated with blackish, the markings of the upper surface indicated in blackish; external third white. Body below ochreous, legs greyish. Expanse of wings 78 millim.

Darjiling (*Hearsay, Lidderdale, &c.*).

Chorodna erebusaria. (Plate CXV. fig. 9.)

Chorodna erebusaria, *Walker*, *Cat. Lep. Het.* xxi. p. 314. n. 1 (1860).

Wings above white, sparsely irrorated with blaekish: primaries with a large oblong basi-eostal grey pateh with reddish outer border, its extremity bounded by a blaek-edged white ≥-shaped line, whieh is immediately followed by an irregular blaek-edged red-brown pateh at the end of the eell; an ill-defined, very oblique, elbowed grey stripe beyond the middle, partly toueliing a widely sinuous, partly undulated and blaek-edged white line, which bounds the external area, the latter striated with grey towards the inner margin, but suffused with bronzy olivaeeous towards apex; an ill-defined submarginal stripe, sinuated and partly blaekish-bordered towards apex, but from near the third median braneh to the external angle nearly straight and partly eonfluent with a broad, white, external border: seeondaries with the submedian and external areas greyish; a large rounded blaek spot at the end of the eell, from whieh to the middle of the abdominal margin is a slender oblique brown line; external area bounded internally by a dentate-sinuate, blaek-spotted, white stripe; a brownish olivaeeous, angulated, submarginal band, diffused internally; a marginal series of eurved blaek lines, that on the diseoidal interspaee being enlarged into a lunule: thorax grey; eyes dull red; abdomen greyish white. Wings below with the markings greyer and less defined than above: body below sordid greyish white. Expanse of wings 84 millim.

Darjiling (*Hooker & Lidderdale*).

A speeies exaetly intermediate between the two preceding was obtained at Sarawak by Mr. Wallace.

HEMEROPHILA, *Steph.*

Hemerophila virescens. (Plate CXVI. fig. 1.)

Hemerophila virescens, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 126. n. 30 (1880).

Nearest to *H. creataria*, but the primaries with subangulated outer margin; upper surfaee pale laky brown, elouded, striped, and spotted with sap-green: wings densely striated with black; fringe ferruginous; black diseoeellular lunules: primaries erossed at basal third by an irregular angulated green stripe, and at apieal third by a green-edged zigzag blaek line; a diseal series of subeonfluent green ereseents, the six uppermost intersecting an abbreviated series of large blaek spots; a blaek marginal line interrupted at the veins: seeondaries erossed before the middle by an ill-defined blaek stripe, and beyond the middle by an irregular series of pale reddish spots partly defined with blaek internally; a diseal series of elongated blaek-edged green spots; a marginal series of blaek lunules: body laky brown; head and antennæ brown; baek of palpi and eollar blaek; abdomen mottled with blaekish. Under surfaee serieeous laky brown: wings indistinetly striated with brown, a

dark spot at the end of each cell: primaries with a belt beyond the middle and a patch at apex formed of cream-coloured striations: secondaries with a creamy apical patch, crossed by a sinuated brown submarginal line. Expanse of wings 82–89 millim.

Darjiling (*Lidderdale*).

BOARMIIDÆ.

HYPOCHROMA, *Guén.*

Hypochroma crocina. (Plate CXVI. fig. 2.)

Hypochroma crocina, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 126. n. 32 (1880).

Primaries above sap-green, more or less clouded with blackish, speckled with black; the two ordinary black lines very slender, bordered internally with pale brown, externally with a slender whitish line, and forming a series of well-defined black spots upon the veins; a bifid, white, subapical spot, and a marginal series of black spots: secondaries crocus-yellow; a large, rounded, black spot at the end of the cell; a clavate subapical black streak; external border, excepting at apex and a part of subanal area, sap-green, speckled with black, and traversed by a very indistinct, partially blackish-edged, whitish, dentate-sinuate line; a marginal series of elongated black spots: body above sap-green, yellowish in front; abdomen with yellow sides. Under surface of wings sericeous crocus-yellow: a large jet-black patch at the end of each cell, followed in the primaries by an abbreviated white belt; these wings also with a black spot below the origin of the first median branch, apex and external area broadly black, but not so intense as on the two spots, a white patch at apex and another at external angle: secondaries with the subapical black streak as above; a marginal series of small black spots; fringe greenish, spotted with blackish: pectus cream-coloured, yellow at the sides; tibiæ and tarsi banded with black; venter crocus-yellow. Expanse of wings 59 millim.

Darjiling (*Lidderdale*).

Allied to *H. leopardinata* of Moore.

Hypochroma vigens. (Plate CXVI. fig. 3.)

Hypochroma vigens, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 127. n. 33 (1880).

Sap-green; wings transversely striated with slender darker lines, fringe tipped with rose-colour: primaries crossed by the two ordinary black lines, which are very slender and bordered with reddish on one side and whitish on the other; discocellulars slenderly black; disk beyond the outer undulated black line reddish, crossed by a series of diffused olivaceous spots, followed by white dots; a white apical patch stained here and there with green; a slender undulated black marginal line: secondaries with the outer undulated black line as in

the primaries, with reddish internal and white external margins; discocellulars blackish; a black undulated marginal line; an interrupted undulated white submarginal line: centre of thorax and dorsal abdominal tufts tinted with pink, each tuft placed in the centre of a slender, blackish, ∩-shaped marking. Under surface sericeous creamy white; wings crossed by a broad, irregular, yellowish-edged, dark brown discal belt: primaries with a diffused streak connecting the belt with the outer margin upon the radial interspaces; an oblique black discocellular litura. Expanse of wings 52 millim.

Darjiling (*Lidderdale*).

Hypochroma muscicoloraria. (Plate CXVI. fig. 4.)

Hypochroma muscicoloraria, *Walker*, *Cat. Lep. Het.* xxvi. p. 1543 (1862).

Pale pea-green: wings crossed beyond the middle by a sinuous dentated darker green line, commencing with a brownish spot on costa of primaries, these wings also with a second line just before the basal third; a dark discocellular lunule and a pale sinuated submarginal stripe on all the wings: under surface yellowish cream-colour, all the wings with a black spot at the end of the cell and a broad black-brown discal belt. Expanse of wings 53 millim.

Darjiling (*Lidderdale, &c.*).

The colours ("pale olive-green, whitish beneath") of Walker's description are due to fading: the colouring of the upper surface gradually changes until it becomes ochraceous in all delicately coloured green Geometrites.

BOARMIA, *Treit.*

Boarmia plumalis. (Plate CXVI. fig. 5.)

Boarmia plumalis, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 126. n. 31 (1880).

Whity brown, mottled with smoky brown; two widely sinuated central black-brown lines, the outer one dentate-sinuate, and followed by a similar but less defined line or stripe; an undulated white submarginal stripe, bounded internally, towards costa of primaries and anal angle of secondaries, by large blackish spots; a marginal series of black lunules: primaries with a subbasal arched blackish line; two ill-defined parallel blackish stripes at basal fourth: antennæ widely plumose, the pectinations being extremely long and curved outwards; back of collar and posterior half of abdomen black, anus testaceous. Under surface whity brown; wings with blackish discocellular lunules, a dusky postmedian undulated line, and traces of a dusky submarginal line; front of pectus brownish. Expanse of wings 70 millim.

Darjiling (*Lidderdale*).

When *Boarmia* is subdivided, as it must be eventually, this species will probably form the type of a new genus : before breaking up this large group, however, it will be necessary to ascertain without doubt which section of the genus shall retain the name *Boarmia*, a work requiring no small amount of time and labour.

OPHTHALMODES, *Guén.*

Ophthalmodes infusaria. (Plate CXVI. fig. 6.)

Ophthalmodes infusaria, *Walker*, *Cat. Lep. Het.* xx. p. 448. n. 4 (1860).

Sericeous pale whity brown, densely mottled and banded with olive-green, the pattern being almost identical with that of *O. herbidaria*, Guén. (=*diurnaria*, Walk.), but with diffused green instead of black markings on the upper surface, and on the under surface a much narrower and more angular band across the secondaries, which is also much further from the outer margin; the whole of the dark markings on the under surface are, moreover, greyer than in *O. herbidaria*. Expanse of wings 74 millim.

Silhet (*Stainsforth*).

Although from the same locality, this is not likely to be a variety of *O. herbidaria*; indeed it is far more distinct from it than are *O. exemptaria* and *O. clararia* from Borneo and Java.

ELPHOS, *Guén.*

Elphos pardicelata. (Plate CXVI. fig. 7.)

Elphos pardicelata, *Walker*, *Cat. Lep. Het.* xxvi. p. 1544 (1862).

Nearly allied to *E. hymenaria* of Silhet, but altogether paler and more evenly coloured in both sexes, which are also much more alike than in *E. hymenaria*: wings white, sprinkled all over with small grey and blackish spots, and banded with pale sandy testaceous and greyish; the ordinary markings formed exactly as in *E. hymenaria*, but none of them quite black, and most of them ill-defined; body grey. Under surface very distinct from *E. hymenaria*, creamy white: the primaries sparsely mottled with grey, with a large spot at the end of the cell, a subapical belt, and a large spot near external angle blackish: secondaries with a large spot at the end of the cell, an angular subapical patch, a large spot near the middle of the outer margin, and another near the anal angle blackish: body below greyish. Expanse of wings 85 millim.

India (*Hearsay*).

GNOPHOS, *Treit.*

Gnophos obtectaria. (Plate CXVI. fig. 8.)

Gnophos obtectaria, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1597 (1866).

Fuliginous brown: wings with a faint pink shot; numerous transverse striations a little paler than the ground-colour; a slender dentate-sinuate arched black line across the disk, crossed by an indistinct undulated grey belt, the sinuations of which enclose a submarginal series of white points: primaries crossed at basal third by a second slender black line. Wings below dull white, sparsely brown-speckled, with brownish borders and a broad chocolate-brown discal belt; a blackish discocellular dash and an arched series of blackish points at a short distance beyond the cell: body below pale sandy brownish. Expanse of wings 56 millim.

Darjiling (*Atkinson* & *Lidderdale*); Nepal (*Wright*).

Gnophos æreus. (Plate CXVI. fig. 9.)

Gnophos æreus, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 128. n. 34 (1880).

Bronzy green, sprinkled here and there with bluish white and mottled with black: wings with brown fringes, slightly speckled at the base with bluish white, and traversed by a dark brown line; a marginal undulated blackish line; a submarginal series of blackish lunules, speckled internally with bluish-white scales; the two usual irregularly sinuated blackish lines indicating the central belt, the inner one obsolete on the secondaries; a blackish spot on the discocellulars: primaries with a blackish subbasal line: abdomen brownish. Wings below brownish grey, sericeous, with darker discocellular dots, undulated discal line, and diffused discal belt; apex of each of the wings whitish; a marginal series of conical blackish spots, base of fringe whitish: body below pale smoky brown. Expanse of wings 57 millim.

Darjiling (*Lidderdale*).

Allied to *G. muscosaria*.

Gnophos muscosaria. (Plate CXVI. fig. 10.)

Gnophos muscosaria, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1596 (1866).

Bronze-green, a very irregular band across the disk of the wings, and separating the central belt from the external border, paler and brighter in colour, pale yellowish, spotted with pearl-white internally and reddish olivaceous externally; a second pale band near the

base of primaries ; the central belt of the ordinary irregularly sinuated and angular character, edged on both sides with black, and on the primaries enclosing two blackish sinuated lines and a black discocellular annulus, sprinkled with pearl-white scales; external border mottled with black and spotted between the veins with pearl-white scales: abdomen greyish brown. Under surface sericeous greyish white, crossed beyond the middle by a dentate-sinuate dusky line; small blackish discocellular spots; a slender marginal line and the tips of the fringe dark brown: primaries darker than secondaries and mottled with grey. Expanse of wings 51 millim.

Darjiling (*Atkinson & Lidderdale*).

ARGIDAVA, *Walk.*

Argidava punctata. (Plate CXVII. fig. 1.)

Argidava punctata, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 128. n. 35 (1880).

Sordid white: primaries crossed by six oblique series of black dots, the second series consisting of four, of which the second is larger and forms the discoidal stigma or discocellular spot; the last series marginal. Under surface creamy white, sericeous; all the wings with a grey discocellular spot, a dentate-sinuate discal line, and a submarginal series of indistinct spots; primaries with a marginal series of blackish dots, with golden-yellow costal margin and apex: legs and venter pale testaceous. Expanse of wings 36 millim.

Darjiling (*Lidderdale*).

Allied to *A. maculata*.

GEOMETRIDÆ.

TANAORHINUS, *Butl.*

Tanaorhinus viridiluteatus. (Plate CXVII. fig. 2.)

Geometra viridiluteata, *Walker*, *Cat. Lep. Het.* xxii. p. 515. n. 18 (1861).

Dull olive-green: wings with a submarginal irregular series of whitish spots: primaries crossed just before the middle by a rather broad belt outlined in whitish, the margins of this belt are arched so as to form a large almost oval area from the costa to the median vein, but from this vein to the inner margin they are crenulated, the upper half of the belt is densely irrorated with bluish-white scales and encloses a black ;-shaped character at the end of the cell: secondaries crossed before the middle by a slightly irregular whitish line; costa white: body above green, face brownish. Primaries below pale pea-green, with the costa and veins cadmium-

yellow; a wedge-shaped patch of pale lilac filling the discoidal area to a little beyond the cell; a pale-edged stripe of this colour crossing the disk a little beyond this patch; a faint indication of a second wider stripe halfway between the first stripe and the outer margin and terminating in a large sienna-red patch at external angle; a fusiform sienna-reddish apical dash; fringe slaty grey tipped with white; internal border white: secondaries bright chrome-yellow, with broad sienna-reddish external border, suffused internally with lilacine and externally with yellow; base of costa and a faintly indicated line from costa beyond the cell tinted with lilac; two blackish dots at the end of the cell; fringe as in the primaries: body below creamy white, sides of pectus cadmium-yellow; palpi brownish. Expanse of wings 56 millim.

Darjiling (*Lidderdale, &c.*).

T. subignitus, from Borneo, is exactly like this species on the upper surface, but on the under surface it differs wholly in colour, though similar in pattern. *T. luteoviridatus* also resembles this species above, but on the under surface, though similar in colour, differs in pattern: it is the *Drepana rafflesi* of Moore, and occurs in Java and Sumatra.

Tanaorhinus dimissus. (Plate CXVII. fig. 3.)

Geometra dimissa, *Walker, Cat. Lep. Het.* xxii. p. 516. n. 20 (1861).

Sea-green: primaries crossed by two irregularly dentate-sinuate divergent white lines, enclosing a black dot at the end of the cell: secondaries with a black dot at the end of the cell, and a denticulated white stripe crossing the wing just beyond the middle; face testaceous, top of head white; thorax green; abdomen white at the sides. Under surface of wings pea-green, with a black dot at the end of each discoidal cell, and a dark brown line from near the apex of primaries to the outer third of abdominal margin of secondaries: body below white, with the front of pectus pea-green. Expanse of wings 59 millim.

North India (*Buckley*).

There can be very little doubt that this species occurs in Darjiling.

Tanaorhinus reciprocatus. (Plate CXVII. fig. 4.)

Geometra reciprocata, *Walker, Cat. Lep. Het.* xxii. p. 515. n. 17 (1861).

Dull olive-green: wings marked as in the preceding species, but the outer stripe of the primaries and that of the secondaries followed immediately by a series of whitish lunules; a submarginal series of white spots is also added: thorax greenish, face ochraceous; top of head and abdomen white, the latter tinted with green along the dorsal region. Wings below green, paler than above; differing from *T. dimissus* in pattern, from the fact that there are two dusky spots at external angle of primaries, and that there is a submarginal series of dusky spots on the secondaries. Expanse of wings 66 millim.

Darjiling (*Leadbeater & Lidderdale*).

This species chiefly differs from *T. confuciaria* of China and Japan in the more elegantly falcate form of its primaries : the colours of all these species as given in Walker's descriptions are due to fading.

LOXOCHILA, *Butl.*

Loxochila smaragdus. (Plate CXVII. fig. 5.)

Tanaorhinus smaragdus, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 128. n. 36 (1880).
Loxochila smaragdus, *Butler*, *Proc. Zool. Soc.* 1881, p. 615.

Bright green, above sea-green, wings with snow-white fringe ; a discal slightly irregular series of snow-white spots ; an olive-green stripe, bordered externally with white, slightly undulated in the primaries just beyond the middle : primaries with a second angular line, edged internally with white at basal fourth ; an olive-green discocellular dot. Body in the type ochreous, with the exception of the collar, a series of lateral spots on the abdomen, and the anal tuft ; two or three dorsal dots and the sides of the abdomen snow-white ; antennæ with ferruginous pectinations. Wings below pale emerald-green, with an indistinct discal series of sap-green spots : primaries also with a straight postmedian stripe of the same colour ; veins white ; fringe sap-green tipped with white : body white, yellowish in front. Expanse of wings 61 millim.

N.E. Himalayas (*Lidderdale*).

GEOMETRA, *Guén.*

Geometra grata. (Plate CXVII. fig. 6.)

Geometra grata, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 129. n. 37 (1880).

Emerald-green ; wings sparsely striated with golden orange : primaries with the costal margin pinky whitish, crossed by dark brown striæ and dots ; two widely separated, inarched, subparallel golden-orange lines, the inner one distinctly irregular, the outer one very slightly so ; fringe tipped with white : secondaries with the costal border, abdominal margin, and the outer half of the fringe upon the outer margin snow-white ; a transverse, diffused, golden-orange stripe just before the middle : palpi, antennæ, and front of collar pinky white ; abdomen creamy white, greenish at base. Under surface sericeous white, the wings showing a tint of green, owing to the transparency of their texture ; costal border creamy ; the numerous striæ of the upper surface indistinctly visible ; a curved greyish line just beyond the middle ; minute blackish discocellular dots : pectus green in front. Expanse of wings 46 millim.

Darjiling (*Lidderdale*).

Nearest to *G. dentisignata* of Moore.

Geometra haliaria. (Plate CXVII. fig. 7.)

Geometra haliaria, *Walker, Cat. Lep. Het.* xxii. p. 518. n. 22 (1861).

Bright pea-green: wings with numerous indistinct whitish striations, crossed from near apex of primaries to middle of abdominal margin of secondaries by a slender oblique white stripe; a minute brown spot at the end of each discoidal cell; fringes white: primaries crossed at basal fifth by a slender oblique white line, diverging from the discal stripe; costal margin white, becoming ochraceous towards the base: abdomen green at the base, otherwise white; front of head and palpi golden testaceous; antennæ pure white, expanded and flattened at the base. Under surface pale pea-green; the white oblique stripes less distinct than above; inner border of primaries and basal area of secondaries whitish, the latter wings with a second white stripe from abdominal margin just beyond the middle to near apex; pectus white behind; tibiæ and tarsi white. Expanse of wings 50 millim.

Darjiling (*Parry & Lidderdale*).

THALASSODES, *Guén.*

Thalassodes distinctaria. (Plate CXVII. fig. 8.)

Thalassodes distinctaria, *Walker, Cat. Lep. Het. Suppl.* v. p. 1607 (1866).

Sea-green: wings crossed beyond the middle by a narrow white stripe, slightly angulated on the secondaries: primaries with a slender slightly irregular arched line across the basal third; costa whitish: palpi and face testaceous; a white band between the antennæ, which are pearly white above and ochraceous below; abdomen with the third and fourth segments lilacine, black-speckled. Under surface pearly white. Expanse of wings 33 millim.

North India (*Russell*).

The species collected by Mr. Russell were from N.E. Bengal.

Thalassodes opalina. (Plate CXVII. fig. 9.)

Thalassodes opalina, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 214. n. 38 (1880).

Wings semitransparent, emerald-green, striated all over with white and with opaline reflections: primaries crossed in the middle by a straight transverse slender white line; a shorter and less-defined line towards the apex; costal margin yellow, fringe tipped with yellow: secondaries angulated, a slender angulated white line beyond the middle, sinuated below the angulation; basal half of the subcostal vein yellow, fringe tipped with yellow: antennæ white at base, golden beyond the base; body sap-green, white at the sides and below. Wings below paler than above and immaculate: primaries with cream-coloured costa. Expanse of wings 42 millim.

Darjiling (*Lidderdale*); N.W. Provinces (*C. Horne*).

Nearly allied to *T. depulsata* from the Celebes and *T. dissita* from Canara; it can readily be distinguished from the latter by its bright green instead of rufous-brown face. *T. dissita* appears to be identical with *T. quadraria* from Ceylon; but the two descriptions were placed under different genera, the former under *Geometra*, the latter under *Thalassodes*.

THALERA, *Hübn.*

Thalera textilis. (Plate CXVII. fig. 10.)

Thalera textilis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 219. n. 46 (1880).

Bright emerald-green, mottled, particularly on the veins, with pearly white; a submarginal chain-like belt of the same colour enclosing a series of green lunules; a marginal series of white and sulphur-yellow diamond-shaped spots, which extend into the fringe; fringe tipped with grey: primaries with grey-mottled chalky-white costal border; a white-edged green lunule at the end of the cell: secondaries with the basal half of abdominal fringe white: body mottled with white, abdomen with a dorsal series of white spots. Under surface white: wings glossy, opaline, veins dead white; fringe greenish, spotted with testaceous, tipped with grey: primaries with blackish-speckled white costal border. Expanse of wings 34 millim.

Darjiling (*Lidderdale*).

This species seems allied to *T. divapala* of Ceylon and the male of *T. pieroides* from Australia, both of which were incorrectly referred to the genus *Comibæna*. The male of *T. pieroides* is now known to be the "*Thalassodes*" *scitissimaria* of Walker's Catalogue. It will be interesting to discover the female of *T. textilis*, in order to see whether, as in the Australian species, it is entirely different in coloration from the male.

COMIBÆNA, *Hübn.*

Comibæna partita. (Plate CXVII. fig. 11.)

Comibæna partita, *Walker, Cat. Lep. Het.* xxii. p. 573. no. 11 (1861).
Var. Comibæna felicitata, *Walker, l. c.* p. 579. n. 23 (1861).

Bright grass-green: primaries white at base, crossed just before the basal third by a slender angular white line; a second more irregular and partly zigzag white line beyond the middle; these two lines connected by a longitudinal white line on the interno-median interspace; a small white-edged blackish dot at the end of the cell; disk partly irrorated with white and crossed by white veins; an oval flesh-tinted patch close to external angle, bounded internally by the discal line, and externally by an irregularly sinuous submarginal white stripe; a brownish spot at external angle; outer margin narrowly white, spotted here and there with black; fringe brownish at external angle, and tipped throughout with silvery greyish: secondaries crossed beyond the middle by a subangulated arched white line, beyond which the

veins are white; a submarginal slender white line, only sharply defined on the median interspaces; apical half of the external area flesh-coloured internally, and dark blood-red externally, the two colours being separated by the submarginal line; a pyriform white apical patch; outer margin beyond the middle narrowly white, and spotted throughout with dark brown; fringe coloured to correspond with the colours on the wing next to it: body above snow-white, the collar grass-green. Under surface pearly white: wings with the veins and borders snow-white: primaries with the costa, discoidal area, a broad patch beyond the cell, and some spots at apex grass-green; black marginal dots as above: secondaries with two distinct and two indistinct apical spots; margin spotted with black; a broad brown patch on the fringe. Expanse of wings 39 millim.

India (*Milne*).

The variety *C. felicitata* differs only in being 5 millimetres more in expanse of wings, and in having a narrower area between the postmedian and submarginal lines on the secondaries; it was obtained in Moreton Bay, Australia.

Comibæna pictipennis. (Plate CXVII. fig. 12.)

Comibæna pictipennis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 215. n. 40 (1880).

Wings above sap-green, indistinctly striated with pearly white: primaries with the basal five eighths of the costa yellowish, the remainder snow-white; an oblique white line across the basal fourth; a small black dot at the end of the cell; an oblique, internally sinuated, externally diffused, tapering, discal, snow-white belt, terminating at the first median branch; a slightly undulated submarginal white line; a slender white marginal line interrupted by black dots between the veins; fringe tipped with white; a plum-coloured spot with ferruginous inner margin near the external angle: secondaries with the costal area pearly white; a large quadrate subapical patch, the veins at apex, the anal angle, and anal three fifths of abdominal fringe plum-colour; a small annular marking of the same colour at the end of the cell; a large dull golden arched band resting on the outer margin, and extending up into the lower radial and interno-median interspaces; outer margin towards apex plum-coloured, spotted with blackish; a very slender silvery-white marginal line; apical fringe plum-coloured, intersected with white; centre of fringe somewhat golden; anal fringe plum-coloured: front of head laky brown; palpi and back of head greyish; antennæ white; collar bright green in front, yellow behind; tegulæ yellow in front, green behind; thorax white in front, yellow in the middle, green behind; abdomen green towards the base, with white dorsal line, white behind. Under surface opaline greenish white, with faint indications of the margins of the plum-coloured spots; black discocellular and marginal dots: primaries with bright green costal border: secondaries with rosy fringe. Expanse of wings 36 millim.

Darjiling (*Lidderdale*).

In some respects resembling the preceding species.

CHLORODES, *Guén.*

Chlorodes pastor. (Plate CXVII. fig. 13.)

Chlorodes pastor, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 216. n. 41 (1880).

Emerald-green: wings with stramineous external border, bounded internally by a rosy submarginal stripe; a ferruginous marginal stripe; fringe traversed by an indistinet interrupted ferruginous line; submarginal stripe bounded within upon the primaries by a narrow white band, and on the seeondaries by a stramineous band, both with zigzag inner edge; a very irregular angulated white diseal stripe, edged with sap-green, on the primaries uniting with the white band between the median branehes: primaries with a large oblong white pateh, varied with rose-eoloured and yellow streaks near the external angle; eostal border white, spotted with green at the base; a white-bordered subbasal orange band: seeondaries with the abdominal margin white, spotted with dull red; fringe white, beeoming yellowish towards the anal angle: vertex of head, antennæ, and probably the abdomen white. Under surfaee serieeous white: wings tinted with the green of the upper surface; eosta of primaries and fringes slightly yellowish, a marginal series of small dark brown spots: seeondaries with several subapieal and subanal brown spots parallel to the outer margin. Expanse of wings 47 millim.

Darjiling (*Lidderdale*).

AGATHIA, *Guén.*

Agathia scutuligera. (Plate CXVIII. fig. 1.)

Agathia scutuligera, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 216. n. 42 (1880).

Wings above emerald-green, fringe pale stramineous, streaked with rose-red at the extremity of the veins; a marginal series of diamond-shaped red-edged white spots, bounded internally by a pale stramineous stripe; eostal borders white; a few red dots in an interrupted series aeross the basal third: primaries with two dots at the end of the eell, the lower one blaek; external angle broadly pale stramineous, traversed by a sinuous purplish abbreviated band, and mottled with lake-red: seeondaries erossed at external third by a series of red dots; apex purplish: head in front yellowish, varied with red; baek of head and antennæ white; thorax and base of abdomen green; rest of abdomen yellowish, sprinkled with red and with large red-edged lateral white spots, anal segments white at the sides. Under surfaee white: wings showing a slight greenish tint; fringe as above; a lake-red marginal line: primaries with pale yellowish costa; a purplish abbreviated band near the external

angle, as above: legs cream-coloured, anterior femora and tibiæ streaked with rose-red. Expanse of wings 32 millim.

Darjiling (*Lidderdale*).

A. scutuligera is very like the *Comibæna devexata* of Walker, to which it seems to be allied.

Agathia beata. (Plate CXVIII. fig. 2.)

Agathia beata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 218. n. 45 (1880).

Brilliant emerald-green: wings with the external area (occupying about a fourth of the primaries and a third of the secondaries) dull brown, limited internally by an undulated black-edged grey line; a large apical green patch almost obliterating the whole of the apical portion of the brown external area of primaries; fringe whitish internally, black externally: primaries with pinky-whitish costal border; a zigzag pale brownish stripe before the middle, commencing in a black subcostal spot; a large brown spot at base: secondaries with the green apical patch terminating behind in an abbreviated white submarginal streak or line; a large subanal green patch, composed of four unequal elongated lunate spots, just beyond the undulated grey line; abdominal margin and fringe white towards the base; a small brown basal spot: head brown in front; thorax blackish, the collar, shoulders, and a spot on the metathorax green; basal segment of abdomen black, with a central green spot, three following segments green with pale brown borders and blackish dorsal tufts, remaining segments sordid white. Under surface creamy whitish: wings slightly tinted with green; external area grey, paler at the margins, and with the apical patches of the upper surface greenish white: primaries with an indistinct rosy zigzag stripe before the middle. Expanse of wings 40 millim.

Darjiling (*Lidderdale*).

Nearest to *A. hemithearia* of Guénée.

Agathia visenda. (Plate CXVIII. fig. 3.)

Agathia visenda, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 218. n. 44 (1880).

Allied to *A. carissima*, but larger, with longer primaries and distinctly caudate secondaries; the external area with much more angular inner edge; the subapical green patch of primaries with distinctly zigzag inner edge, and the two spots below it larger and consequently more distinct, the external angle decidedly redder up to the second median branch; the costal border greyish brown, the curved stripe just before the middle of the wing darker and beginning in an irregularly cruciform subcostal spot: secondaries with the external area wider and greyer at abdominal margin; the small green spot enlarged and placed further

from the anal angle; the apical marginal green spot almost separated into two very unequal semicircular spots. Wings below with the external area purplish, showing the green spots of the upper surface. Expanse of wings 42 millim.

Darjiling (*Lidderdale*).

EPHYRIDÆ.

SYNEGIA, *Guén.*

Synegia infixaria. (Plate CXVIII. fig. 4.)

Caberodes infixaria, *Walker*, *Cat. Lep. Het.* xxvi. p. 1513 (1862).

Bright clear ochreous, mottled with sienna-red and sparsely black-speckled: wings crossed just before the basal third by a slender ferruginous band and before external third by a broader ferruginous band tinted here and there with slaty greyish; an irregularly sinuous submarginal band, indistinct on the secondaries—these three bands are all acutely angulated towards the costa of primaries, which is dark and suffused with greyish; on the median interspaces are two subconfluent greyish spots, and on the apical area of the secondaries are two sinuous sienna-red streaks suffused with grey, the outer one being a part of the fragmentary submarginal band; the area between the first and second bands on these wings is also suffused with sienna-reddish; a black dot at the extremity of each discoidal cell: thorax and antennæ greyish in front. Under surface pale clear ochreous, with slaty-grey indications of the markings of the upper surface. Expanse of wings 36 millim.

Darjiling (*Lidderdale, &c.*).

Walker quoted the locality of this species as Venezuela; but it is certain that his type cannot have come from the New World. It is a not uncommon Darjiling species.

ANISODES, *Guén.*

Anisodes hyriaria. (Plate CXVIII. fig. 5.)

Anisodes hyriaria, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1617 (1866).

Bright golden ochreous, densely mottled with rosy ferruginous: the wings crossed by two bands of the latter colour mottled with leaden grey; small silvery white discocellular spots: head red-brown, with a white band between the antennæ; front of thorax lilacine greyish; back and sides of abdomen whity brown. Under surface pale golden stramineous, with lilacine-greyish mottling and bands nearly as on the upper surface. Expanse of wings 37 millim.

Darjiling (*Russell & Lidderdale*).

Anisodes lidderdalii. (Plate CXVIII. fig. 6.)

Anisodes lidderdalii, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 220. n. 49 (1880).

Ochreous, mottled all over with burnt-sienna red: wings with a black dot at the end of the cell of each wing, a marginal series of black dots, a dark greyish-brown oblique dash at apex, a second near the middle of external border, and two or three spots on the inner margins: primaries crossed beyond the middle by an angulated dark greyish-brown belt, which widens abruptly above the angulation at second median branch, and is excavated at its costal termination so as to give it almost a forked appearance: secondaries crossed close to the base by a dark-brown stripe; a bisinuated, ill-defined, red line just before the middle, dotted at its extremities with blackish; two parallel, abbreviated, *N*-shaped, grey costal lines near the apex; a subquadrate discal dark-brown patch across the second median and discoidal interspaces: antennæ whitish, with grey pectinations; a red posterior border on each side of the collar; base of abdomen dark brown. Under surface stramineous, with all the markings of the upper surface, including the mottling, reproduced in grey. Expanse of wings 32 millim.

Darjiling (*Lidderdale*).

Anisodes punctifera. (Plate CXVIII. fig. 7.)

Anisodes punctifera, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 220. n. 48 (1880).

Near to *A. pardaria* from Borneo. Ochreous, mottled all over with blood-red: primaries with a black subcostal dot near the base, a faintly indicated, oblique, zigzag, testaceous line, marked with two black dots at basal fourth; an oblique testaceous dash, enclosing a black dot, at the end of the cell; an oblique testaceous belt beyond the middle, margined externally by black dots, and emitting one internal and two external forks above the middle: a transverse testaceous dash near the external angle; a marginal series of black dots: secondaries pale at the base, crossed near the base by a testaceous abbreviated stripe; an interrupted, testaceous, mottled undulated belt just before the middle, margined externally by a series of black dots, and limited internally by the black discocellular dot; a testaceous discal stripe forking towards the costa; a marginal series of black dots: antennæ with grey pectinations. Under surface cream-coloured, crossed by undulated grey lines corresponding with the bands of the upper surface; a black dot at the end of each cell. Expanse of wings 46 millim.

Darjiling (*Lidderdale*).

Anisodes pluristriaria. (Plate CXVIII. fig. 8.)

Anisodes pluristriaria, *Walker, Cat. Lep. Het.* xxvi. p. 1581 (1862).

Stramineous, irrorated with ferruginous: wings with black-edged silver discocellular

spots, those of the primaries rather large, these wings crossed obliquely by four or five more or less regular grey-brown lines and transversely by two discal lines: secondaries crossed by six lines, the second and fourth irregular, the fifth forked at apex; these lines also pass across the abdomen. Under surface pale creamy stramineous, with slender greyish lines arranged as above, but less numerous. Expanse of wings 46 millim.

Darjiling (*Hearsey & Lidderdale*).

Somewhat allied to the preceding species.

CABERIDÆ.

MYRTETA, *Walk.*

Myrteta planaria. (Plate CXVIII. fig. 9.)

Myrteta planaria, *Walker, Cat. Lep. Het.* xxiii. p. 831. n. 1 (1861).

White: primaries clouded, especially towards outer margin, with silvery grey, crossed by three oblique subparallel dark-brown stripes, the first and second a little wider apart than the second and third; a dark-grey diffused crenulated submarginal stripe; outer margin dark brown: secondaries with the abdominal area slightly greyish, crossed from the median vein to near the anal angle by two white-edged elbowed brown lines; an oblique, internally diffused, golden testaceous tapering band commencing near the anal angle in an oval marginal black spot; a narrow dark-brown marginal line: abdomen above greyish. Under surface white: primaries with broad pale greyish-brown external border widest on the costa; markings of upper surface indistinct: secondaries with a black dot at end of cell, a series across the disk, and an interrupted greyish submarginal stripe; outer border yellowish. Expanse of wings 44 millim.

Darjiling (*Parry & Lidderdale*).

TELDENIA, *Moore.*

Teldenia vestigiata. (Plate CXVIII. fig. 10.)

Corycia vestigiata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 222. n. 51 (1880).

Snow-white, sericeous: wings crossed beyond the middle by an angulated series of internally brown-edged semicircular or lunate testaceous spots, followed immediately by a series of indistinct lunate brownish markings; a second similar but reversed submarginal series of lunate markings; a marginal series of minute black dots: frons reddish brown; antennæ testaceous. Under surface creamy white, immaculate. Expanse of wings 21 millim.

Darjiling (*Lidderdale*).

MACARIIDÆ.

MACARIA, *Curt.*

Macaria metagonaria. (Plate CXVIII. fig. 11.)

Azelina metagonaria, *Walker, Cat. Lep. Het.* xxv. p. 1518 (1862).

Wings above testaceous to beyond the middle, mottled and striated with grey-brown; costal borders yellow, spotted with black; a broad brown stripe across the basal third; a yellow band beyond the middle intersected by a black stripe, and bounded externally by a black band; external area purplish grey, striated with blackish and mottled here and there with testaceous; a wedge-shaped brown-bordered yellowish costal patch towards apex of primaries, and two obliquely placed black spots near centre of disk of secondaries, with an interrupted black marginal line; fringe dark grey, tipped with ochreous and with a pale basal line: body above smoky grey; head ochraceous, black-speckled; abdomen testaceous at the sides. Under surface bright deep ochreous, sparsely speckled with brown, an irregular brown streak across the basal third; external area of primaries nearly as above; external area of secondaries almost wholly ochreous, striated with brown; otherwise nearly as above, but without the black discal spots: body below ochreous. Expanse of wings 39 millim.

Darjiling (*Lidderdale, &c.*).

Macaria xanthonora. (Plate CXVIII. fig. 12.)

Macaria xanthonora, *Walker, Cat. Lep. Het.* xxiii. p. 935. n. 122 (1861).

Greyish brown, striated here and there with yellow: wings crossed in the middle by a tolerably regular yellow-tinted white band, beyond which is a narrow falciform yellow line only separated from the band (excepting towards costa of primaries) by a black line; a blackish marginal line; a broad yellow-streaked grey cuneiform costal patch from the central band to the apex of primaries: secondaries with a large blackish patch in the middle of the disk just beyond the central band; a dark brown angular subapical dash. Primaries below with the basal area, veins, and costa broadly ochreous; central band white, speckled with dark brown: secondaries ochreous to beyond the middle; external area greyish; fringe with a white basal line; a blackish discocellular spot: body below ochreous. Expanse of wings 40 millim.

North India.

EVARZIA, *Walk.*

Evarzia indica. (Plate CXVIII. fig. 13.)

Evarzia indica, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 222. n. 52 (1880).

Testaceous: wings black-speckled, crossed on the basal half by two subparallel blackish-mottled yellow lines, the outer one irregularly undulated: primaries with the external two sevenths darker, crossed obliquely from apex to inner margin by a broad dark-brown stripe, which also crosses the secondaries just beyond the middle, its centre occupied by a sandy-yellow line; external area beyond the stripe greyish brown, marked at external angle with a black spot on a pale testaceous diffused patch striated with black; margin black; apical half of fringe blackish, inferior half testaceous; a subapical costal red-brown marking formed of two parallel oblique and slightly curved dashes corresponding in character with the commencement of the two subbasal lines; two black costal spots beyond the subapical dashes: secondaries with a diamond-shaped red-brown spot on second median interspace, and two or three ill-defined dots on the subcostal interspaces; a black marginal line: abdomen with two dorsal series of black dots. Under surface sandy yellow: wings speckled with black, crossed before the middle by a brown irregular line varied with ferruginous; a black dot at the end of each discoidal cell: primaries with a broad brown-edged rust-red band traversed by an indistinct lunulated brown line, and immediately followed by the smoky brown external area; an oval sandy yellow apical costal spot; fringe as above: secondaries crossed by a broad oblique discal belt, smoky brown externally; a black marginal line. Expanse of wings 42 millim.

Darjiling (*Lidderdale*).

The genus *Evarzia*, though nearly allied to *Parasemia, Macaria*, &c., was described as a group of Ennomidæ. The species described under the name of *E. marginata* is referable to the genus *Azata*, another genus of Macariidæ incorrectly placed in the Ennomidæ.

FIDONIIDÆ.

PLUTODES, *Guén.*

Plutodes transmutata. (Plate CXIX. fig. 1.)

Plutodes transmutata, *Walker, Cat. Lep. Het.* xxiii. p. 976. n. 2 (1861).
Comibæna gavisata, *Walker, l. c.* xxvi. p. 1566 (1862).

Citron-yellow: primaries with a cuneiform basi-internal patch of coffee-red, bordered with silver, and continuous with a broad triangular patch which occupies the basi-abdominal two fifths of the secondaries; a large irregular discal patch of coffee-red, crossed by a zigzag brown line and edged with plumbaginous: secondaries with a large almost reniform

patch of similar character: head yellow; collar white; anus whitish, rest of body above reddish. Under surface cream-colour, the discal patches of the upper surface represented by similar smoky grey patches. Expanse of wings 30 millim.

North India (*James*).

Both of Walker's types were received in the same collection, which was probably made in Assam.

Plutodes discigera. (Plate CXIX. fig. 2.)

Plutodes discigera, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 223. n. 53 (1880).

Wings above citron-yellow: primaries with a semicircular basi-internal patch of coffee-red, bordered with plumbaginous, and continuous with a broad triangular patch which occupies the basi-abdominal two fifths of the secondaries; all the wings with a large oval discal patch of coffee-red, crossed by a zigzag darker red line and bordered with plumbaginous: body red-brown; back of head, collar, and anal tuft pale yellow. Under surface pale creamy yellow, all the wings with a large chocolate-brown oval patch occupying nearly the whole of the disk: secondaries with pale reddish-brown basi-abdominal area. Expanse of wings 32 millim.

India.

This species was placed by Walker with *P. cyclaria*.

Plutodes flavescens. (Plate CXIX. fig. 3.)

Plutodes flavescens, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 223. n. 54 (1880).

Nearly allied to the preceding, but the wings of a lemon-yellow colour, the discal patches comparatively smaller, more rounded in form, the line across them considerably more zigzag, forming in the primaries ten, instead of three, angles; body redder. Expanse of wings 34 millim.

North-east Himalayas (*Lidderdale*).

Plutodes exquisita. (Plate CXIX. fig. 4.)

Plutodes exquisita, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 223. n. 55 (1880).

Primaries above sulphur-yellow, with sericeous costal border; outer margin and fringe citron-yellow; an irregularly quadrate basi-internal rust-red spot with blackish margin; disk almost wholly occupied by a broad rust-red belt, washed with pinky reddish internally and ochraceous externally, and traversed by a darker zigzag line, not reaching the costal margin, but edged at its upper extremity with plumbaginous, bordered internally by two black lines and externally by a single black line flecked with plumbaginous: secondaries with the

basi-internal and discal areas rusty red, edged externally with black and flecked with plumbaginous; the disk also traversed by a darker zigzag line and bounded internally by two black lines, which terminate near the anal angle in a black spot, partly bordered internally with yellow and externally with plumbaginous; central area occupied by a triangular lemon-yellow belt; margin and fringe citron-yellow: body reddish; collar pale yellow; antennæ cream-coloured. Under surface pale creamy yellowish; the disks of the wings golden brown or pale clay-reddish, margined and banded with grey; fringes citron-yellow; abdominal border of secondaries slightly golden: body cream-coloured. Expanse of wings 34 millim.

Darjiling (*Lidderdale*).

Plutodes subcaudata. (Plate CXIX. fig. 5.)

Plutodes subcaudata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 224. n. 56 (1880).

Wings above pale sulphur-yellow, semitransparent, the costal border and fringes rather darker: primaries with a basi-internal triangular coffee-brown patch bordered with plumbaginous and black; disk almost wholly occupied by a broad coffee-brown belt, which, however, is abruptly narrowed to about one third of the width below the second median branch; the belt is traversed by an irregularly zigzag ferruginous line and bordered by a black-edged silvery line: secondaries with a basi-abdominal belt edged externally with plumbaginous and black, and a broad irregularly angulated belt, occupying nearly the whole of the disk, coffee-brown; the discal belt also bounded on both sides by a black-edged silver line, and traversed by a zigzag ferruginous line; external margin strongly angulated, with a large black spot extending into the fringe at the angle, so as to give it an almost caudate appearance; the outer half of the same fringe ochraceous: body brown; back of head and collar pale yellow; antennæ cream-coloured. Under surface creamy whitish, with yellow borders to the wings; discal belt formed nearly as above, but greyish brown with faint cupreous reflections. Expanse of wings 36 millim.

Darjiling (*Lidderdale*).

PAGRASA, *Walk.*

Pagrasa rufescens. (Plate CXIX. fig. 6.)

Pagrasa rufescens, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 224. n. 57 (1880).

Pale pinky brown: wings sericeous, inclining to flesh-colour: primaries with two large widely separated black costal spots; costal area minutely black-speckled; external border greyish; fringe ferruginous; two widely divergent oblique orange stripes, the first slender, from median vein to inner margin, the second crossing the disk from the inner margin to just above the upper radial vein: secondaries with rosy outer border; an abbreviated

submarginal stripe from the anal angle: antennæ silvery grey. Primaries below pale golden brown, subcostal and external areas dull blood-red; external border lilacine towards apex; a blackish costal spot at apical third: secondaries rosy brownish; an angulated discal ferruginous line. Body below rosy brownish; tibiæ and tarsi greyish. Expanse of wings 36 millim.

Darjiling (*Lidderdale*).

Pagrasa instabilata. (Plate CXIX. fig. 7.)

Pagrasa instabilata, *Walker, Cat. Lep. Het.* xxiv. p. 1086. n. 1 (1862).

Ash-grey, slightly tinted with pink in certain lights; the base of primaries to beyond the middle of the cell mottled between the veins with black; a broad black oblique band from the end of the cell to the inner margin, crossed by pale veins and intersected by a trisinuate pale stripe; three black costal spots, that nearest to the apex very small; external border, excepting at external angle, where there is a collection of black spots, golden testaceous, edged internally with white: secondaries with the abdominal border mottled with black between the veins and crossed at anal angle by a white curved dash: body grey, banded with white and regularly spotted with black; front of collar ochreous, tips of tegulæ yellowish. Wings below smoky grey, the apical area, two subconfluent patches on the costa of primaries, and the body below bright ochreous. Expanse of wings 36 millim.

Silhet, Java, &c.

NOREIA, *Walk.*

Noreia sericea. (Plate CXIX. fig. 8.)

Noreia sericea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 225. n. 58 (1880).

Sericeous pinky brown, the abdomen and basal areas slightly greyish: wings crossed just beyond the middle of primaries and before the middle of secondaries by an oblique dark ferruginous line; a slender irregularly undulated submarginal line of the same colour; a slender black marginal line; fringe rosy, pale at base: primaries with three semicircular ferruginous lines across the cell, and two parallel subbasal sigmoidal lines below it. Under surface creamy whitish, sericeous; the wings sordid, crossed by two dark greyish-brown discal lines, the inner one straight, the outer one undulated; a slender marginal line; fringe rosy greyish towards the tip. Expanse of wings 32 millim.

North-east Himalayas (*Lidderdale*).

ZERENIDÆ.

ABRAXAS, *Leach.*

Abraxas pusilla. (Plate CXIX. fig. 9.)

Abraxas pusilla, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 225. n. 59 (1880).

Allied to *A. leopardinata,* but only of about two thirds the size: primaries with the central interrupted band expanded into a broad grey nebula occupying about a third of the wing; discal series of spots double, more or less confluent, and forking towards the costa; marginal spots regular and generally confluent: secondaries with both the discal and marginal series of spots small and regular. Expanse of wings 38 millim.

Darjiling (*Lidderdale*), Nepal.

There is no doubt of the distinctness of this little species. *A. leopardinata,* according to Walker, was an assemblage of three or four quite distinct species.

ICTERODES, *Butl.*

Icterodes conspersa. (Plate CXIX. fig. 10.)

Abraxas conspersa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 225. n. 60 (1880).

Wings sericeous white: primaries above spotted and speckled with dark olive-green, the spots forming five bands—the first basal, indistinct; the second subbasal, formed of three rounded spots, immediately followed by two larger, almost lunate, spots and a rounded one on inner margin; third and fourth each of two closely approximated series, which combine into one band towards the inner margin; fifth formed of three series—the first of oval submarginal spots, the second of confluent lunate marginal spots, the third of semicircular spots on the fringe: secondaries with a discocellular spot, one or two dots towards base of abdominal margin, a discal interrupted series of two or three small subcostal and one or two large abdominal spots; a submarginal series, a marginal series of elongate spots, and a series alternating with the latter upon the fringe, all blackish: body ochreous, spotted with black. Primaries below with all the markings sericeous grey. Expanse of wings 62 millim.

Darjiling (*Lidderdale*).

Allied to *I. lapsariata,* but smaller, the white intervals between the bands of primaries mottled all over with olive dots, and the central bands of large spots rather more sinuous. This and the following species, though destitute of the bright yellow colouring of the known forms of *Icterodes,* correspond in structure with that genus.

Icterodes consocia. (Plate CXIX. fig. 11.)

Abraxas consocia, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 226. n. 61 (1880).

Near to the preceding, but considerably larger; the veins and borders of primaries pale olivaceous, the spots of the bands blackish, many of them confluent, and the secondaries dotted all over with dark grey; the ordinary spots larger, those of the border confused by the numerous mottlings between them. Expanse of wings 82 millim.

North-east Himalayas (*Lidderdale*).

CALLABRAXAS, *Butl.*

Callabraxas amanda. (Plate CXIX. fig. 12.)

Callabraxas amanda, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 226. n. 62 (1880).

Wings above snow-white, sericeous: primaries with the basal half cupreous brown, crossed towards the base by three grey lines dotted with white on the veins, the third line undulated in the middle; a grey-and-white V-shaped marking immediately beyond the cell; costa towards apex black; two subapical spots, one below the other, close to the costa, three similar submarginal spots and an apical nebular grey patch; a marginal series of black spots; one or two minute grey dots near the external angle: secondaries with the external border golden ochreous, tapering towards the apex; a submarginal series of six oval black spots, the first two subconfluent, and eight marginal spots, of which all, excepting the first and last, are bifid; anal half of abdominal margin banded with black: body sordid cream-colour, spotted with black. Under surface of wings sericeous white: primaries with a dusky streak through the cell, otherwise the basal markings only visible from the transparency of the wing; a decreasing discal series of eight grey spots and a marginal series of bifid black spots: secondaries as above, excepting that the submarginal series of spots is continued to the costa, two spots being added at the upper extremity of the series: body sordid cream-colour, spotted and dotted with black. Expanse of wings 55 millim.

Darjiling (*Lidderdale*).

VINDUSARA, *Moore.*

Vindusara metachromata. (Plate CXX. fig. 1.)

Abraxas metachromata, *Walker*, *Cat. Lep. Het.* xxiv. p. 1122. n. 17 (1862).

Primaries above leaden grey; basi-costal area mottled with white; a broad white belt just beyond the middle, its margins irregular and spotted with grey, its centre occupied by a grey band enclosing a series of subconfluent golden-brown spots; a white abbreviated band

near external angle, and a few white striæ along the external border; fringe sericeous smoky brown: secondaries white, grey-speckled at base; three unequal grey spots before the middle; external border broad, irregularly sinuated, for the most part fulvous and black, but partly grey and white, more especially the anal half; head and front of collar sordid testaceous; antennæ black, excepting at the base; thorax white; abdomen partly white, but the posterior segments greyish and ochreous at the sides, anal tuft ochreous. Under surface of wings with the markings almost wholly grey; otherwise as above: body below ochreous, spotted with black. Expanse of wings 61 millim.

Darjiling (*Lidderdale, &c.*).

EREBOMORPHA*, *Walk.*

Erebomorpha fulguraria. (Plate CXX. fig. 2.)

Erebomorpha fulguraria, *Walker*, *Cat. Lep. Het.* xxi. p. 495. n. 2 (1860).

Olivaceous brown, densely striated with black; primaries crossed in the middle by two reversed irregularly arched white bands, which usually unite on the first median branch so as to produce a large ꓘ-shaped character; immediately beyond these bands is a third curved white band from the apex to the first median branch, continued, by the addition of a transverse orange dash, almost to the submedian vein; a pale, widely undulated submarginal line; a white spot on the middle of the fringe: secondaries crossed near the base by a white band, which curves outwards on the subcostal area, and almost joins an arched white postmedian band; centre of disk irregularly golden brown, without black striations; a slender white stripe partly tinted with yellow, and bordered externally with orange, from the extremity of the first subcostal branch to the abdominal margin just below the postmedian vein; immediately beyond this stripe a series of subconfluent whitish-edged black hastate spots, their points directed outwards; fringe white between the costal and subcostal, and between the second and third median veins; a series of marginal lunate black spots: vertex of head and front of collar pale sandy brown; antennæ with sienna-red pectinations; base of abdomen crossed by a white band. Under surface dark sericeous grey-brown; the basal area mottled with white: primaries with the ꓘ-shaped character wider and more irregular than above; a white apical spot, and a white spot on the fringe: secondaries with a broad subcostal white band confluent with a broad, brown-spotted, angular, white submedian band; two white marginal patches: body below ochreous; a longitudinal blackish ventral stripe. Expanse of wings 96 millim.

North India, Darjiling (*Lidderdale, &c.*).

* This genus was referred by its author to the *Ennomidæ*; it is, however, evidently allied to the preceding genus.

LARENTIIDÆ.

SAURIS, *Guén.*

Sauris ignobilis. (Plate CXX. fig. 3.)

Sauris ignobilis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 227. n. 64 (1880).

♂. Pale sandy brown: primaries crossed by numerous angulated wavy blackish lines; the basal area, a central angulated belt (most distinct towards the costa above the angulation), and a broad subquadrate apical patch, only separated by a slender black line from the external border, which is of the same colour, creamy whitish. Under surface sericeous, sordid whitish. Expanse of wings 31 millim.

Darjiling (*Lidderdale*).

LYGRANOA, *Butl.*

Lygranoa cinerea. (Plate CXX. fig. 4.)

Lygranoa cinerea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 228. n. 65 (1880).

Primaries above sericeous grey, crossed in the middle by two parallel subangulated yellow stripes, the inner one spotted with black on the costa, and the outer one enclosing a black line at costa and a black dot just above the angulation; costal margin minutely black-speckled: secondaries sandy whitish: thorax grey; abdomen sandy whitish. Primaries below greyish, with the apical area and costal border golden: secondaries sandy whitish, minutely speckled with grey; costal border slightly golden: body below whitish, palpi golden. Expanse of wings 20–22 millim.

Darjiling (*Lidderdale*).

DOCIRAVA, *Walk.*

Docirava æquilineata. (Plate CXX. fig. 5.)

Docirava æquilineata, *Walker, Cat. Lep. Het.* xxvi. p. 1635 (1862).

Primaries above greyish brown, crossed by two oblique ochreous stripes, the first at basal two fifths, the second from apex to outer third of inner margin; between these two bands there is a prominent black discocellular spot: secondaries whitish, the external area tinted with golden brownish: thorax greyish; abdomen whitish at the sides. Primaries below grey, tinted with pink towards outer margin; the inner stripe very indistinct, the outer one expanded and bright ochreous towards the apex: secondaries greyish towards the base, yellowish on the external half, the whole surface reticulated or striated with rose-colour

and minutely black-speckled; the division between the basal and external areas clearly visible as an arched line; a black discocellular dot: body below flesh-coloured. Expanse of wings 38 millim.

North India.

Docirava medmaria. (Plate CXX. fig. 6.)

Orsonoba? medmaria, *Walker, Cat. Lep. Het.* xxvi. p. 1521 (1862).
Eubolia reciproca, *Walker, l. c. Suppl.* v. p. 1698 (1866).

Primaries deep chocolate-brown at the base, followed by a biangulated white-edged sienna-red band; this band and the basal area are divided by a central longitudinal whity-brown streak; central area blackish, with a whity-brown band through the middle from costa to inner margin; a cuneiform costal whity-brown patch, its point extending to the apex; a bisinuated sienna-red submarginal band separated from the central area by a slender white line; external border pale greyish brown: secondaries creamy white: body above whitish grey-brown. Under surface pale sandy reddish: primaries with the interno-median area pale silvery greyish; fringe grey: secondaries irrorated with black scales; a blackish litura at the end of the cell and a faintly indicated angular postmedian line: body below tinted with pink. Expanse of wings 43 millim.

Darjiling (*Lidderdale, &c.*).

The genus *Docirava* is placed by Walker near to *Eubolia*. It more nearly resembles *Anaitis* in pattern, but the comparatively small secondaries indicate a stronger affinity to the *Lobophora* group of genera.

CIDARIA, *Treit.*

Cidaria fissisignis. (Plate CXX. fig. 7.)

Cidaria fissisignis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 228. n. 66 (1880).

Nearest to *C. mactata* of Felder. Primaries above pale sericeous pinky brown, adorned with large white-bordered black-brown patches and spots in six series as follows:—two spots at the base, two partly divided and larger near the base, a 7-shaped series just before the middle; the fourth series consists of a large quadrate costal patch, behind and below which run four small spots in a curved oblique line, and below that again a large cloven patch from above the median vein to near the inner margin; the fifth (or discal) series begins upon the costa in a large spot, and is continued, by small spots at intervals upon a sinuated brown line, to the inner margin; the last series represents a moderately wide external border, interrupted in three places and divided by pale veins into more or less quadrate spots: secondaries sericeous white, slightly tinted with brown towards the abdominal and external borders, the disk crossed from the abdominal margin to the middle by two irregular dusky

lines; external border dusky; a marginal series of black geminated dots; fringe pale stramineous, intersected by a dusky line: thorax dark brown, longitudinally striped with grey on each side; abdomen grey. Under surface pale sericeous greyish brown; wings with blackish discocellular lituræ; a pale-edged dentate and crinkled blackish line just beyond the middle. Expanse of wings 42 millim.

Darjiling (*Lidderdale*).

Cidaria delecta. (Plate CXX. fig. 8.)

Cidaria delecta, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 229. n. 67 (1880).

Intermediate in character between *C. interplagata* and *C. mactata*. Primaries above black-brown; basal fourth limited by a pale yellowish-white line, which emits a fork obliquely backwards towards the inner margin, and two nearly longitudinal streaks forwards to join a double stripe of the same colour, which runs obliquely through the centre of the wing; the inner line of the central stripe curves forwards and upwards from the first median branch so as to enclose a large partly cleft patch of the ground-colour, which crosses the end of the cell from the costal margin; the latter is also crossed by two indistinct whitish lines, and is partially enclosed by a pale brassy yellow line close to the whitish one, and running across the disk; a slender dentate-sinuate whitish discal line, followed below the third median branch by a gravel-brown stripe; a widely bisinuated submarginal whitish stripe; a nearly marginal slender whitish line; veins externally whitish or yellow; a slender indistinct whitish annular line near the middle of the inner border; fringe with a testaceous basal line: secondaries nearly as in the allied species: body whitish; tegulæ and sides of abdomen brown. Primaries below altogether greyer than above, brassy towards the apex, the markings less prominent: secondaries pale brassy yellow, minutely black-speckled; discocellular spot black and prominent; two curved dusky lines and an indistinct discal streak dotted with brown: body below yellowish. Expanse of wings 38 millim.

North-east Himalayas (*Lidderdale*).

Cidaria relata. (Plate CXX. fig. 9.)

Cidaria relata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 229. n. 68 (1880).

Allied to *C. silaceata, melancholica,* and *substituta*. Primaries dark brown, crossed by four pale stripes—the first three pinky whitish and enclosing brown lines, the first subbasal, arched, the second and third crossing one another so as to form a large ≈-shaped figure, which covers more than a third of the wing, the fourth biangulated, white, submarginal; several pale annular markings in the centres of the patches enclosed by the pale stripes: secondaries sericeous greyish white; anal half of abdominal border banded alternately with blackish and white; outer margin brownish: body pale bronzy brown, indistinctly banded with white.

Primaries below greyish, with faint indications of the markings of the upper surface: secondaries whitish; a discocellular spot, an *N*-shaped marking on abdominal border, and a dentate-sinuate submarginal line dusky: body below whitish, legs testaceous; anterior tibiæ indistinctly banded with brown. Expanse of wings 34 millim.

North-east Himalayas (*Lidderdale*).

Cidaria aurigena. (Plate CXX. fig. 10.)

Cidaria aurigena, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 230. n. 69 (1880).

Allied to *C. inextricata* and *ærosa*: the primaries much more golden than either, the dark-brown markings being confined to the base, costal border, the large patch which crosses the end of the cell and which is acutely angulated, and to the apex; all the other spots which are brown in *C. inextricata*, and partly so in *C. ærosa*, are of a brassy golden colour in this species: secondaries with scarcely a trace of the white discal stripes: body pale brassy yellowish; thorax greenish in the centre, with a brown longitudinal dorsal stripe. Under surface brassy yellow, with greyish lines, as in *C. inextricata*. Expanse of wings 27 millim.

North-east Himalayas (*Lidderdale*).

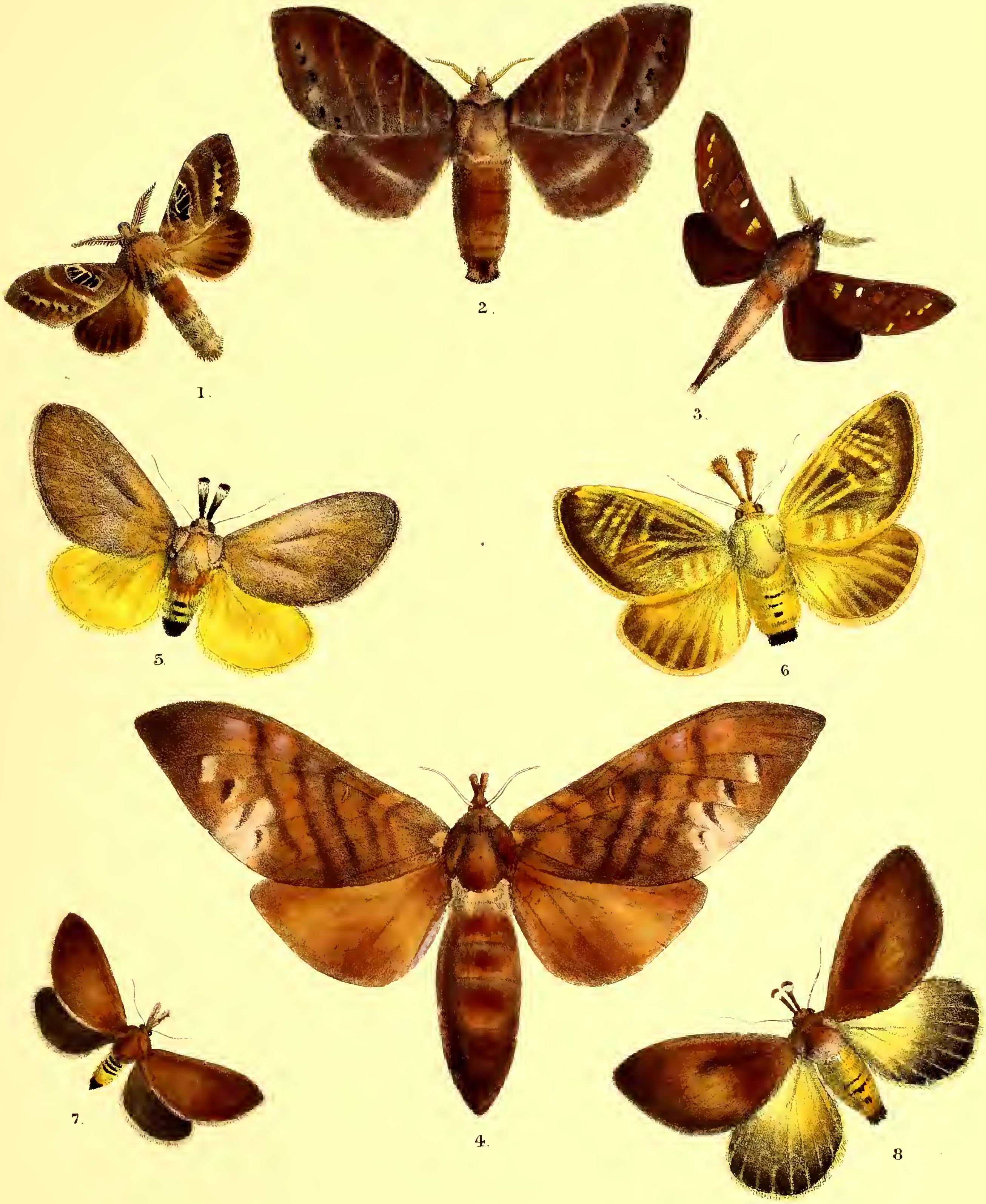
Apart from difference of pattern and coloration, this species measures about half an inch less in expanse of wings than *C. inextricata*; the latter differs from *C. ærosa* in having ten instead of eight yellow lines and stripes across the costal half of the primaries, and in the dark brown spots on the border near the external angle.

Cidaria aliena. (Plate CXX. fig. 11.)

Cidaria aliena, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. vi. p. 230. n. 70 (1880).

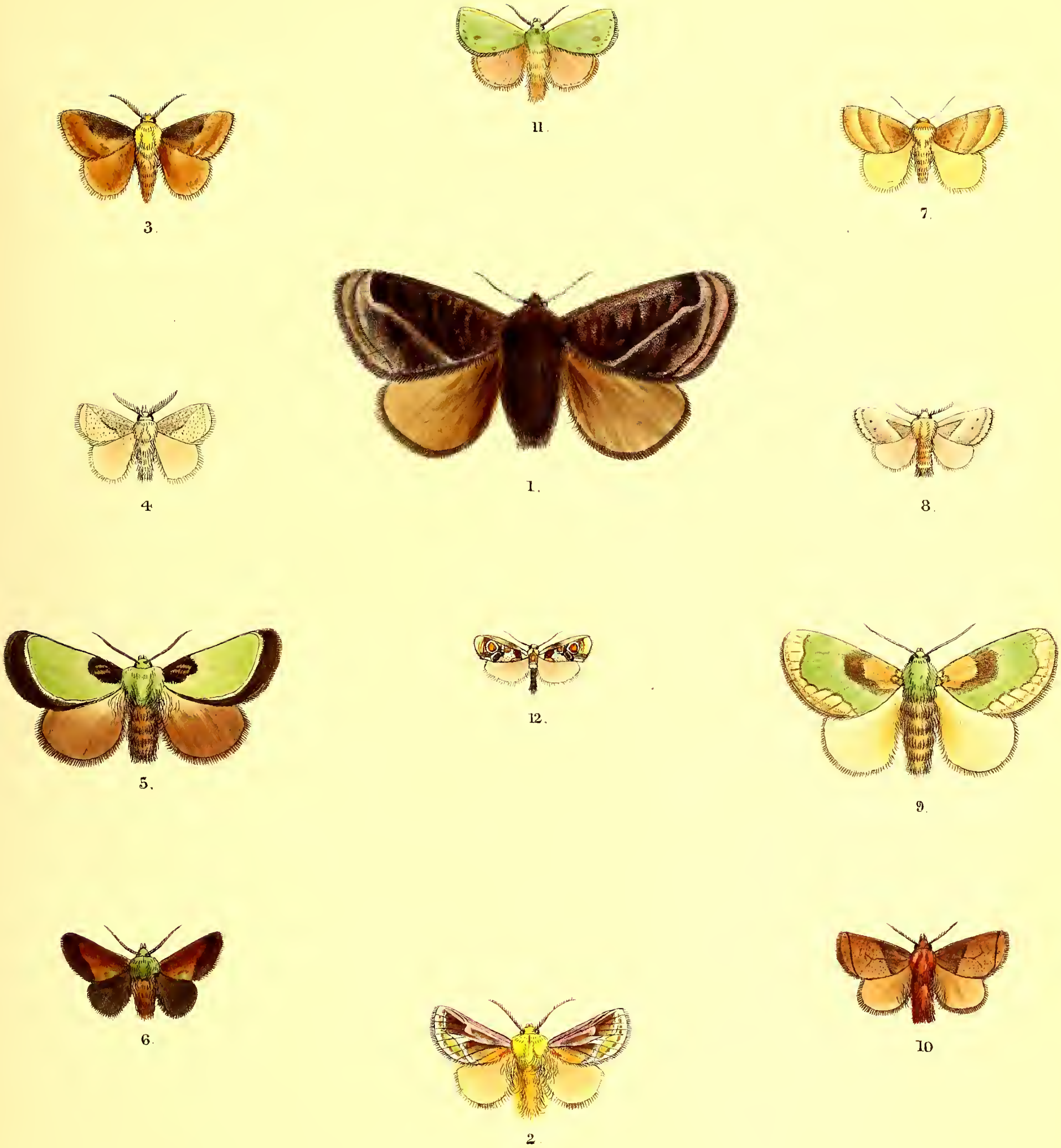
Nearly allied to *C. aurata*, of the *C. corylata* group. Primaries black-brown, crossed at basal third and again on the disk near the outer margin by two widely diverging ochreous bands, touched here and there with ferruginous, and bordered by tolerably regularly dentate-sinuate white lines; a cuneiform costal apical spot and a small spot near the centre of external border of the same ochreous colour, but not white-bordered; outer border towards the external angle almost wholly ferruginous; a marginal series of slender white lunules; fringe ochreous, spotted with blackish: secondaries white, tinted, especially towards the outer margin, with golden yellow; fringe ochreous: body white, spotted with yellow and dark brown alternately. Primaries below altogether paler than above: secondaries white, speckled with dark brown, and crossed in the middle by two parallel irregularly arched dark-brown lines; a blackish discocellular spot; indications of a dark brown submarginal line; veins almost wholly yellow: legs brownish. Expanse of wings 31 millim.

Bhotan (*Lidderdale*).



R. Mintern del et lith. Mintern Bros. imp.

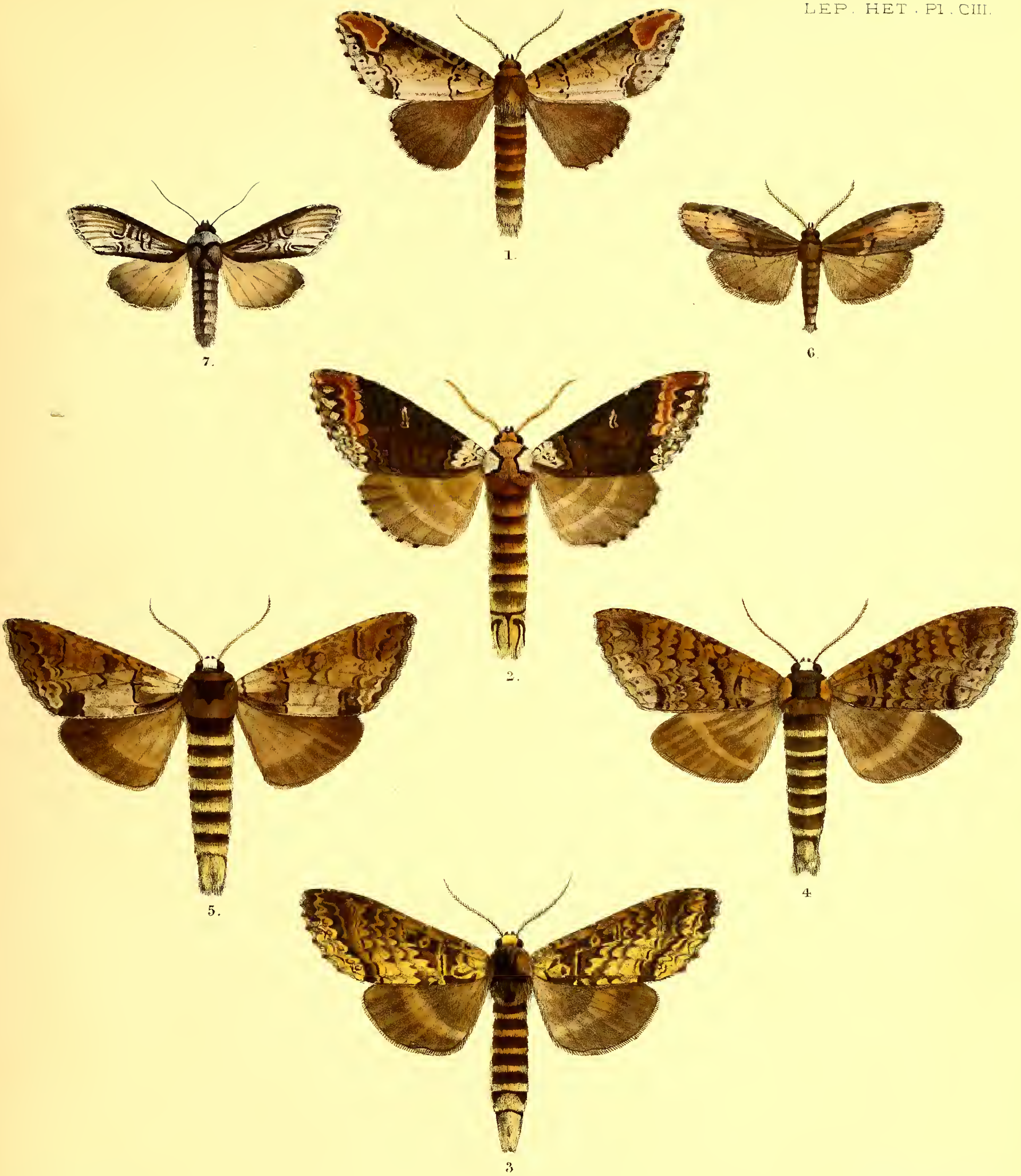
1, 2. Lebeda repanda
3, 4. Suana bimaculata
5. Scopelodes testacea.
6. Scopelodes sericea.
7, 8. Scopelodes ursina.



R. Mintern del et lith

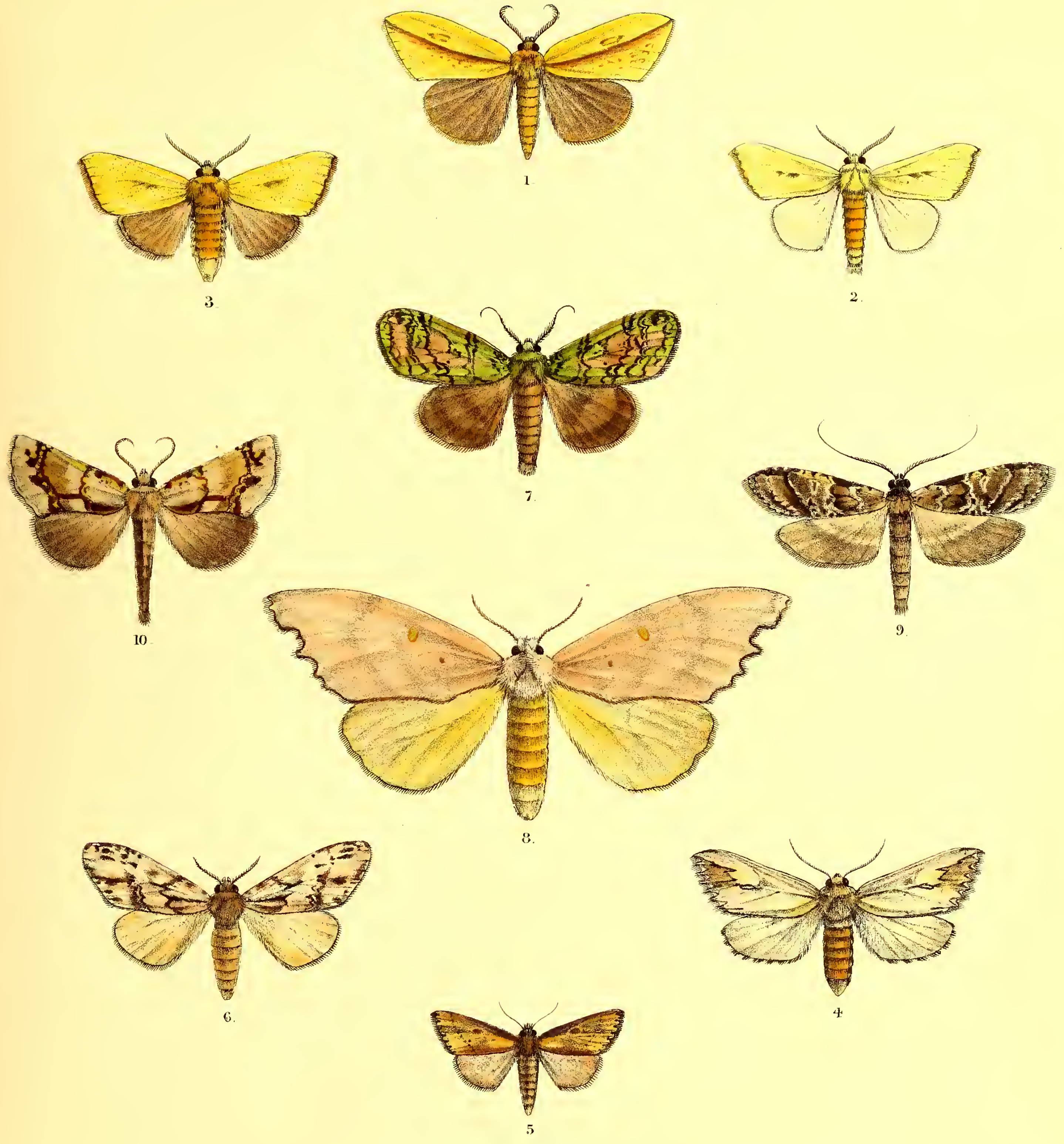
Mintern Bros. imp.

1. Phocoderma velutina.
2. Miresa bracteata.
3. Miresa decedens.
4. Susica pallida.
5. Parasa repanda.
6. Neomiresa herbifera.
7. Cania sericea.
8. Aphendala transversata.
9. Parasa pastoralis.
10. Natada rufescens.
11. Parasa bicolor.
12. Ichthyura argentea.



E. Mintern del. et lith. | Mintern Bros. imp.

1. Phalera raya.
2. Phalera parivala.
3. Phalera arenosa.
4. Phalera sangana.
5. Phalera stigmigera.
6. Gargetta costigera.
7. Callænia elongata.



R. Mintern del et lith.

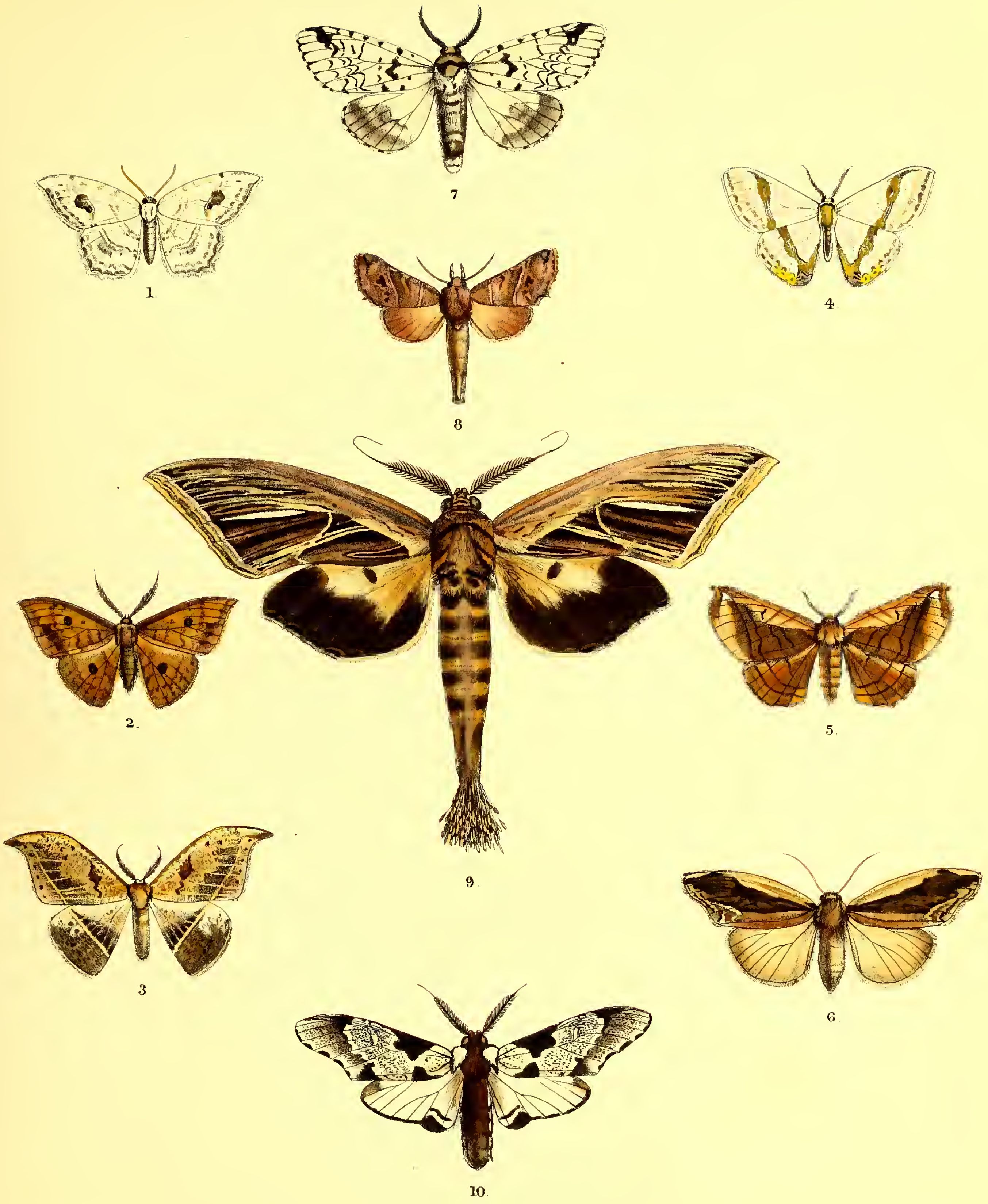
Mintern Bros. imp.

1. Menapia xanthophila.
2. 3. Antheua discalis.
4. Zana lignosa.
5. Ramesa tosta.
6. Hyperæschra pallida.
7. Somera viridifusca.
8. Nadata niveiceps.
9. Porsica ingens.
10. Besaia rubiginea.

R. Mintern del et lith.

Mintern Bros. imp.

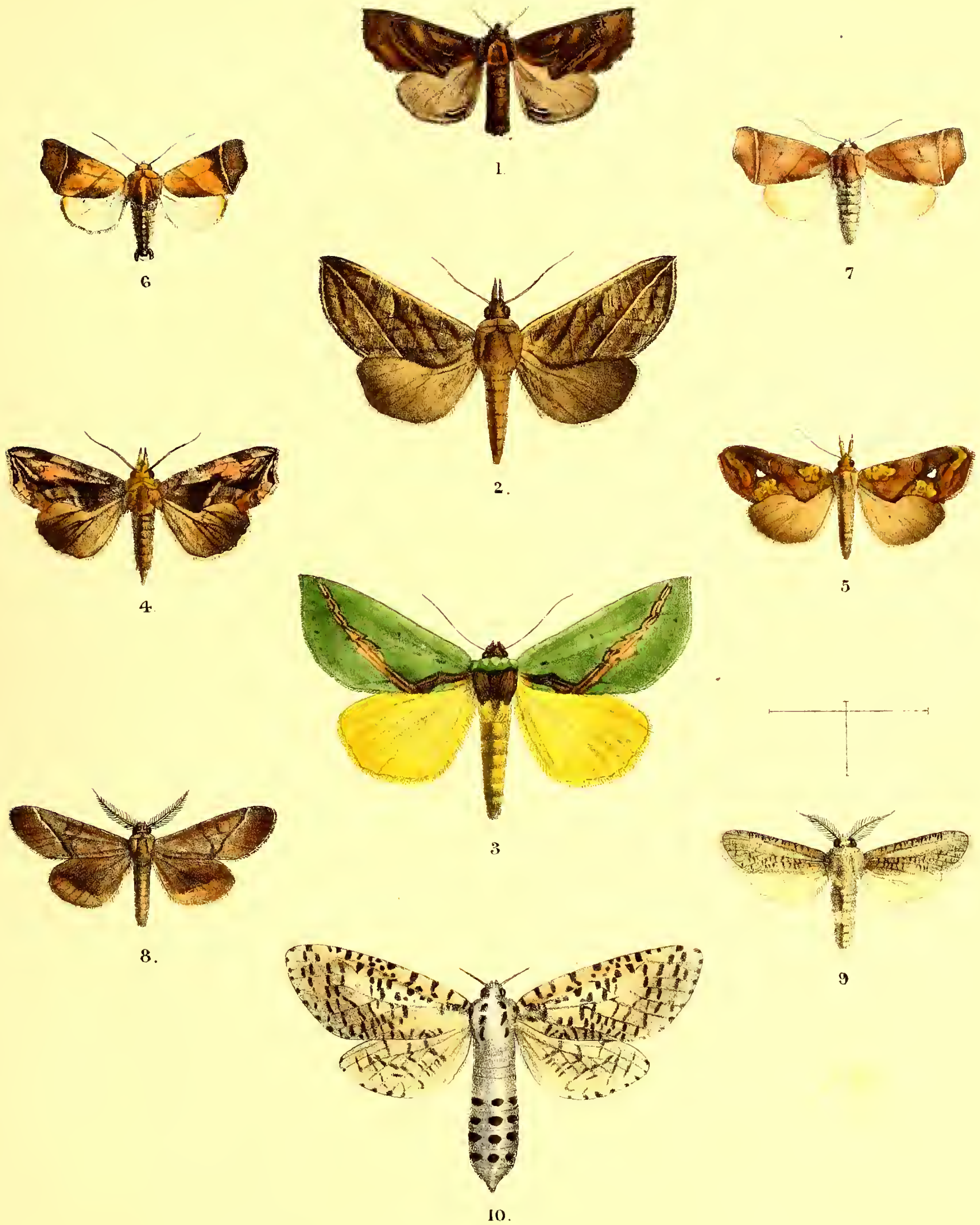
1. Earias frondosana. 7. Tyana pustulifera.
2,3. Tyana callichlora. 8. Tyana lancina.
4. Tyana speculatrix. 9. Tyana falcata.
5,6. Tyana chloroleuca. 10. Callidrepana ochrea.
11,12. Agnidra specularia.



Edwin Wilson del et lith.

Mintern Bros imp.

1. Auzata semipavonaria.
2. Agnidra usta.
3. Drepana specularis.
4. Macrocilix mysticata.
5. Prismosticta fenestrata.
6. Olene lanceolata.
7. Harpyia liturata.
8. Orsonoba torpida.
9. Tarsolepis fulgurifera.
10. Damata longipennis.



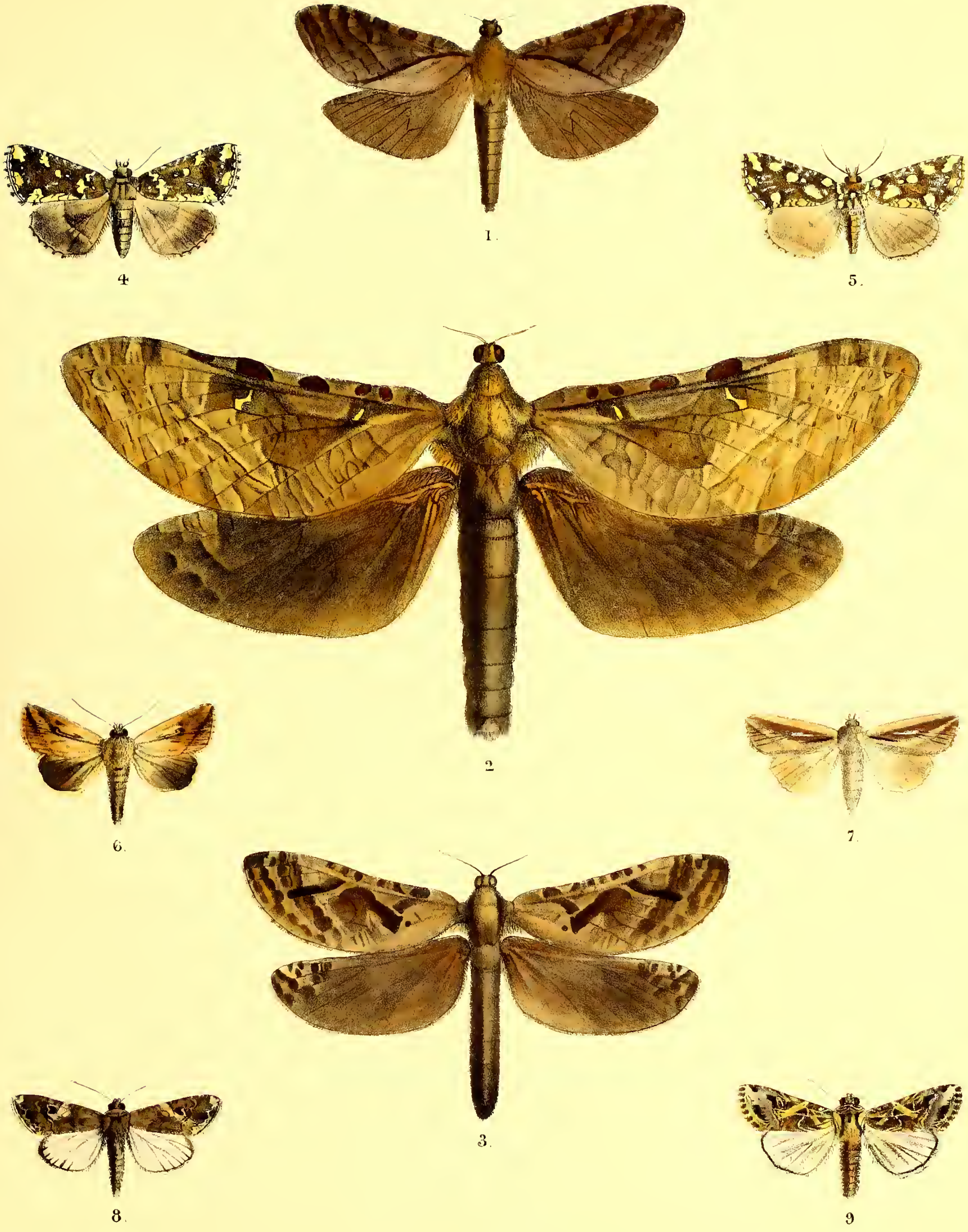
R. Mintern del et lith. Mintern Bros imp.

1. Lophopteryx saturata.
2. Calpe orthograpta.
3. Cyphanta xanthochlora.
4. Oræsia emarginata.
5. Gadera incitans.
6, 7. Dabarita subtilis.
8. Sybrida inordinata.
9. Zenzera pusilla.
10. Zenzera conferta.

R. Mintern del et lith.

Mintern Bros. imp.

1, 2. Zenzera leuconota. 4, 5. Hepialus marcidus.
3. Duomitus ligneus. 6, 7. Hepialus pauperatus.



R. Mintern del. et lith.

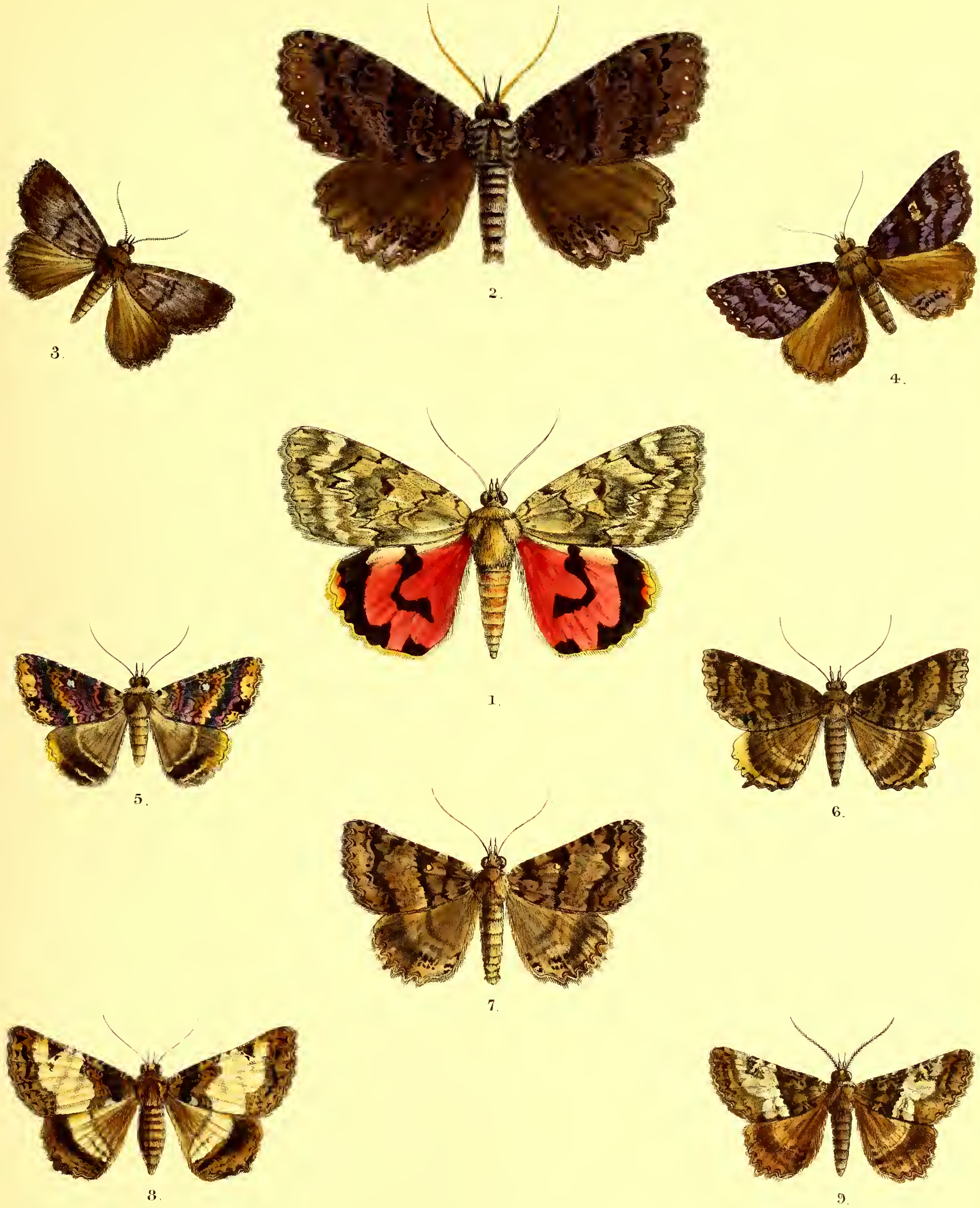
Mintern Bros. imp.

1. Phassus aboe.
2. Phassus signifer.
3. Phassus damor.
4. Thyatira florens.
5. Thyatira florescens.
6. Leucania decisissima.
7. Leucania hamifera.
8. Prodenia infecta.
9. Prodenia glaucistriga.

R. Mintern del et lith.

Mintern Bros. imp.

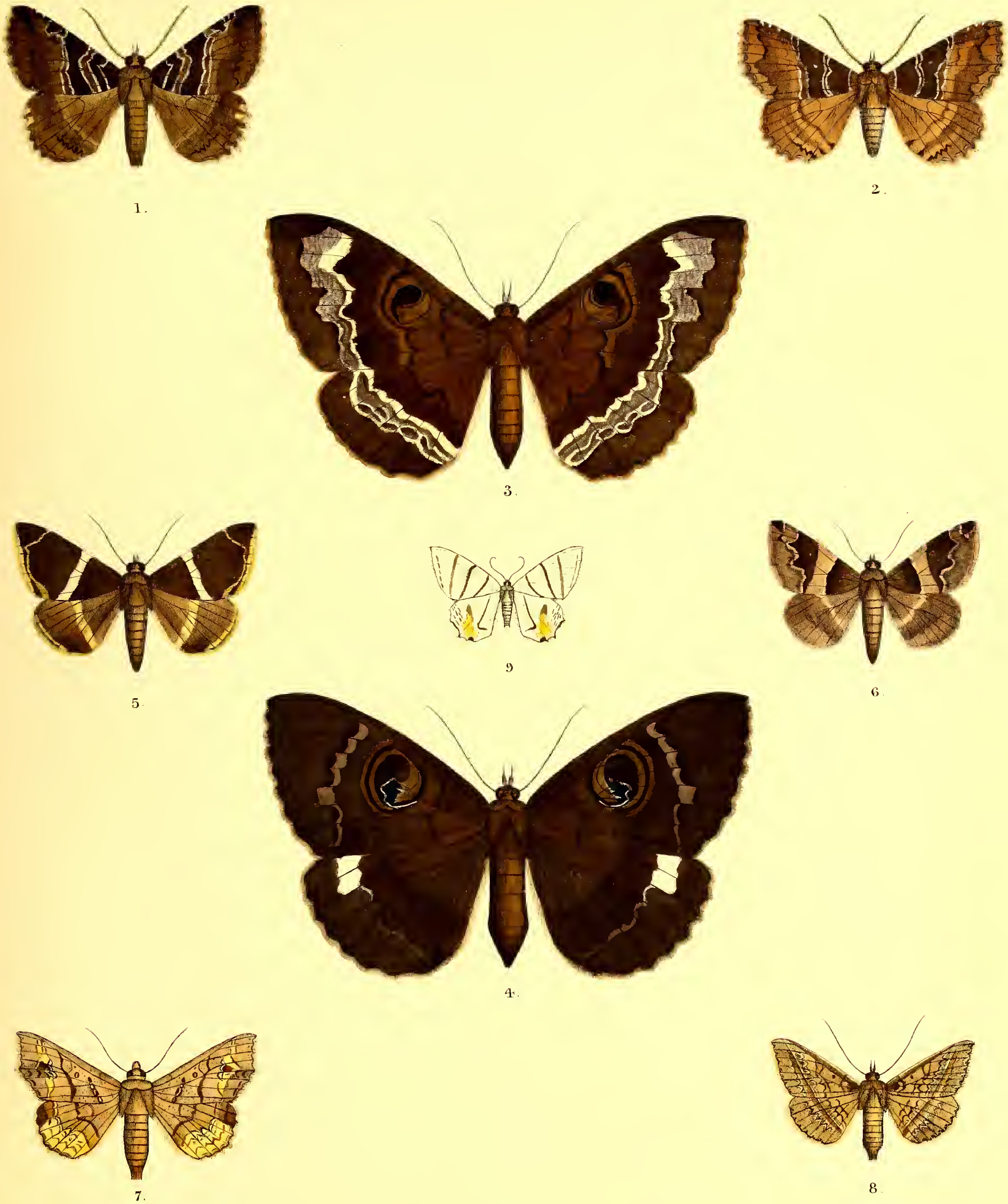
1. Epilecta semiherbida. 4. Plusia nigrisigna. 7. Briarda precedens.
2. Acontia judicata. 5. Plusia ciliaris. 8. Arcte nigrescens.
3. Leocyma cygnus. 6. Briarda decens. 9. Catocala prolifica.
10. Catocala concubia 11. Catocala unicuba.



R. Mintern del et lith.

Mintern Bros. imp.

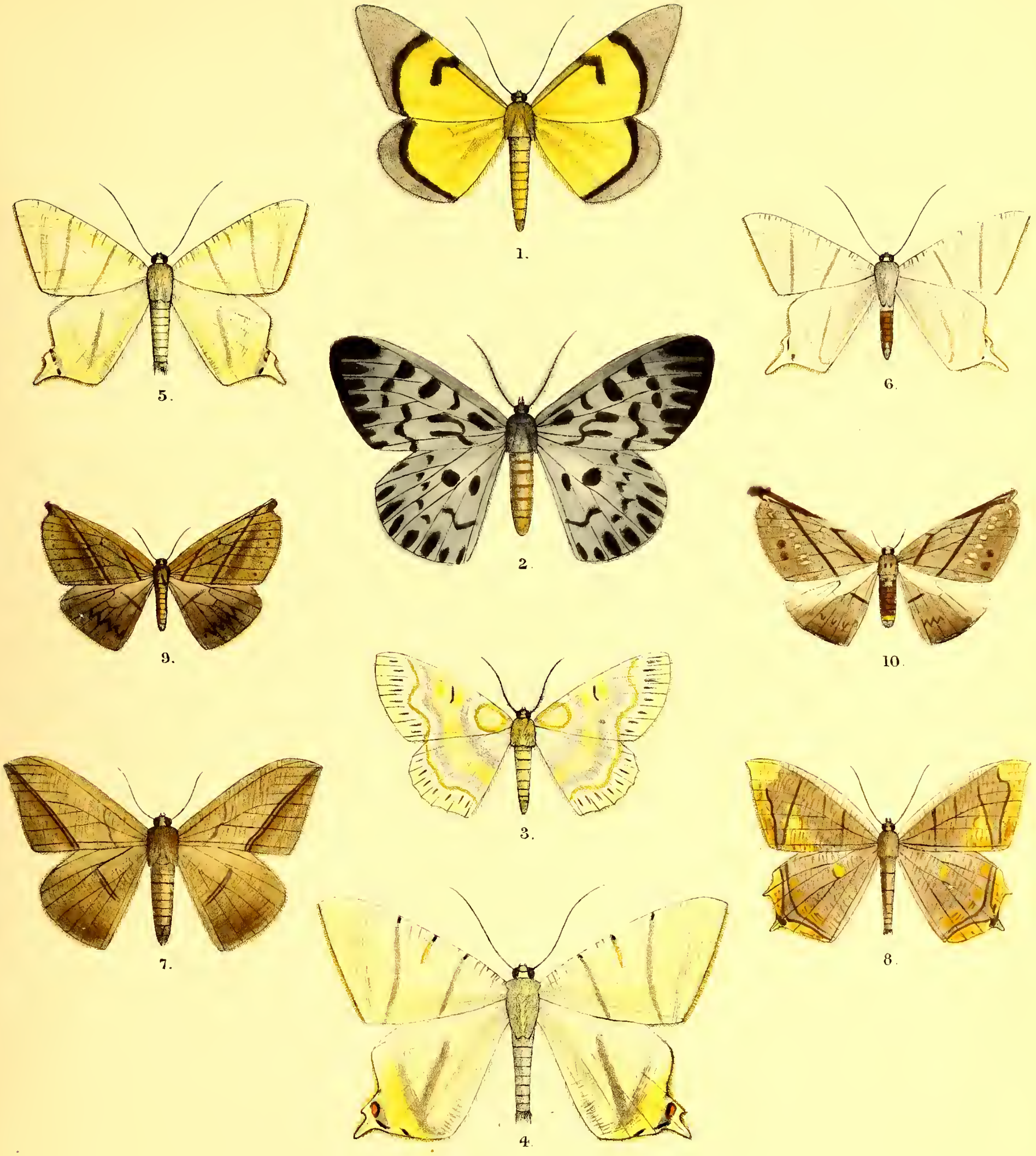
1. Catocala sponsalis.
2. Sypna mormoides.
3. Sypna umbrosa.
4. Sypna cælisparsa.
5. Sypna pulchra.
6. Sypna apicalis.
7. Sypna tenebrosa.
8. Sypna lucilla.
9. Sypna obscurata.



M. Horman-Fisher del et lith.

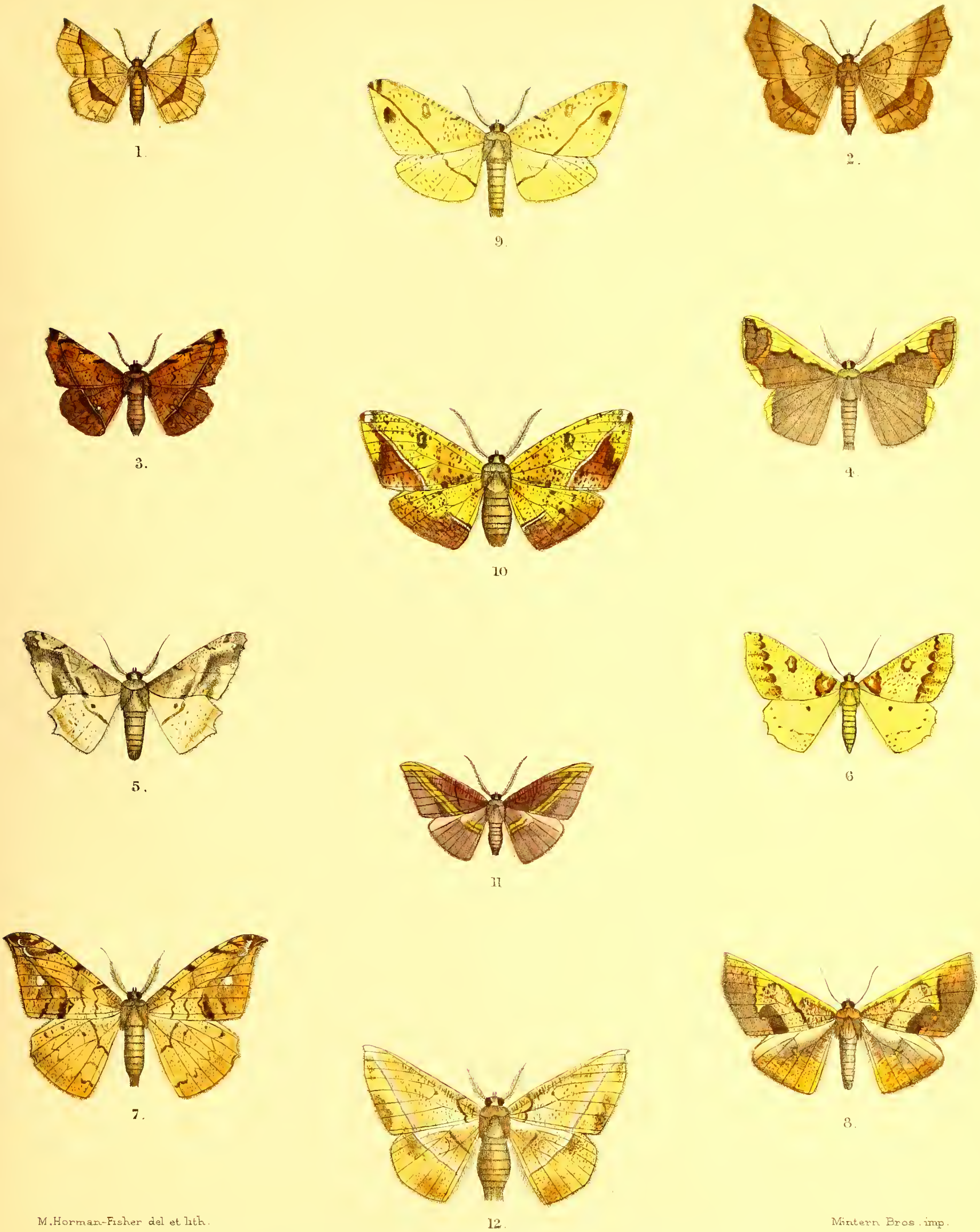
Mintern Bros. imp.

1. Sypna albilinea.
2. Sypna moorei.
3. Nyctipao exterior.
4. Nyctipao glaucopis.
5. Ophiusa conficiens.
6. Ophiusa properata.
7. Amphigonia comprimens.
8. Thermesia creberrima.
9. Erosia himala.



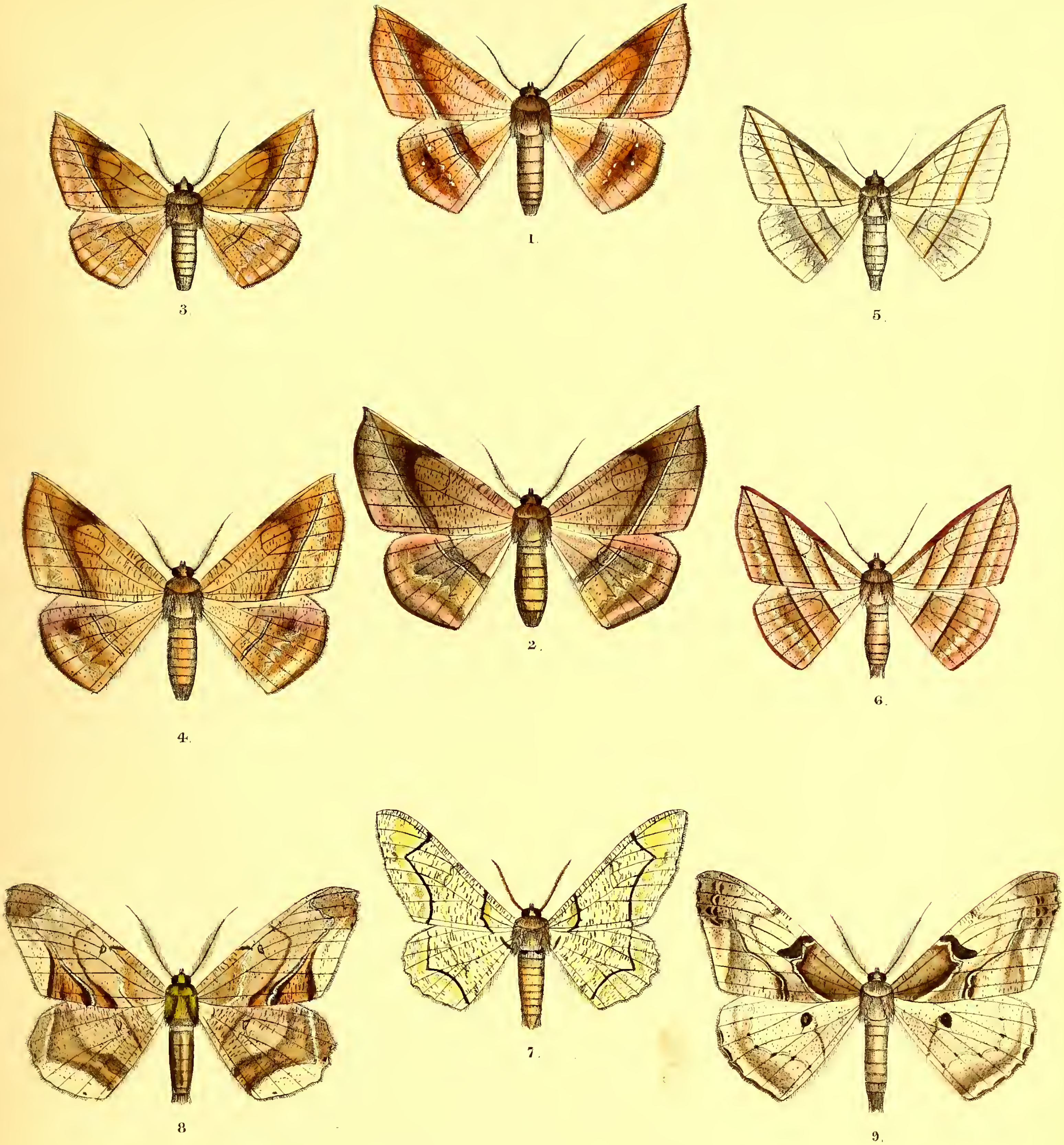
M. Horman-Fisher del et lith. Mintern Bros. imp.

1. Celerena divisa.
2. Euschema proba.
3. Panæthia iridicolor.
4. Urapteryx primularis.
5. Urapteryx sciticaudaria.
6. Urapteryx clara.
7. Litbada sericaria.
8. Thinopteryx nebulosa.
9. Decetia arenosa.
10. Decetia rufifrontata.



M.Horman-Fisher del et lith. Mintern Bros. imp.

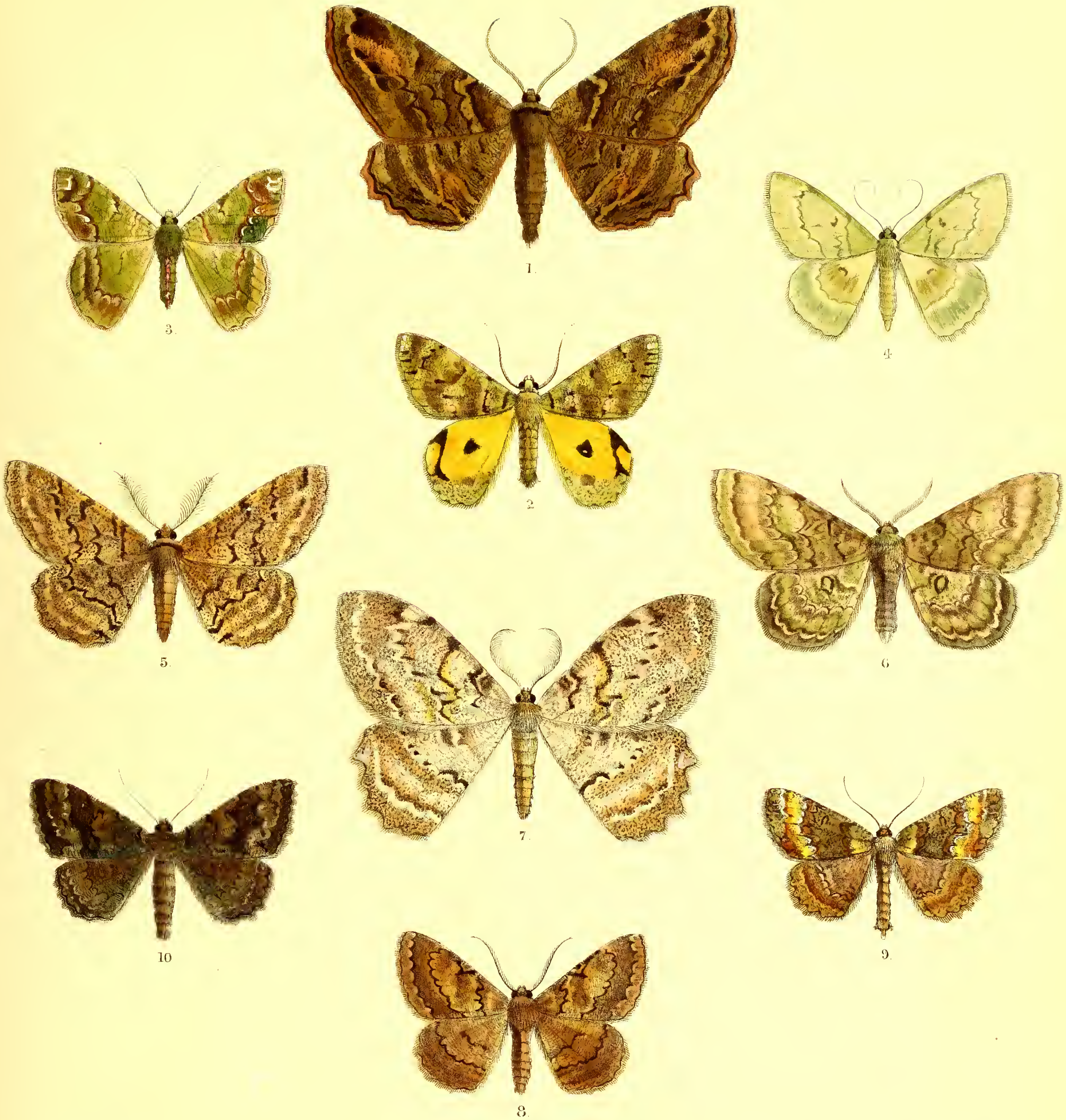
1. Epione gynopteridia. 4. Garæus costatus. 7. Metoxydia calamina.
2. Endropia lugens 5. Orsonoba pallida. 8. Ellopia pulchra.
3. Garæus cruentatus. 6. Rumia sulphurea. 9,10. Omiza pachiaria.
11. Phænix iris. 12. Sarcinodes debitaria.



M Horman-Fisher del et lith.

Mintern Bros. imp.

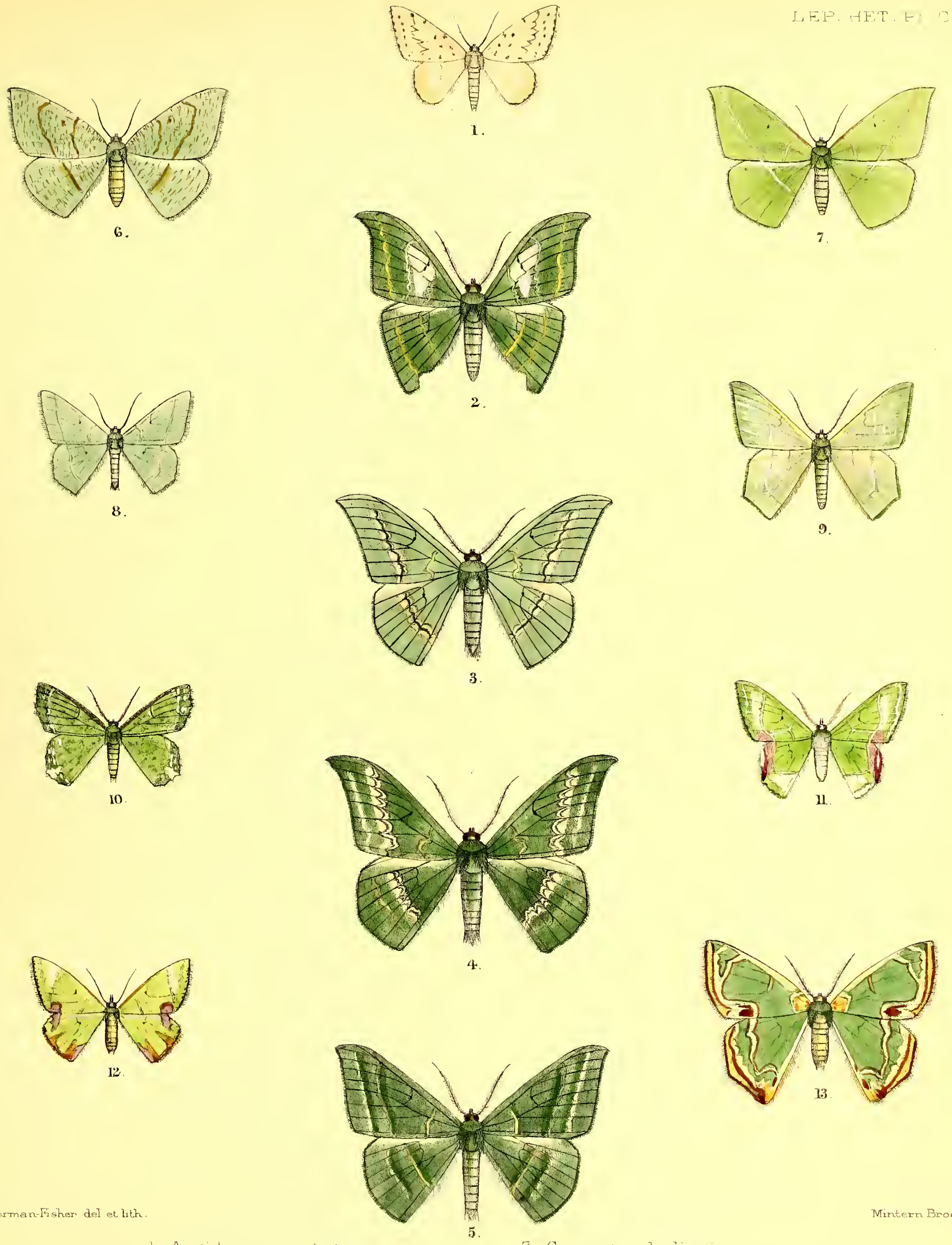
1,2. Sarcinodes restitutaria.
3,4. Id. var. — ægrota.
5,6. Sarcinodes æquilinearia.
7. Amphidasys contectaria.
8. Chorodna metaphæaria.
9. Chorodna erebusaria.



R. Mintern del. et lith.

Mintern Bros. imp.

1. Hemerophila virescens.
2. Hypochroma crocina
3. Hypochroma vigens
4. Hypochroma muscicoloraria.
5. Boarmia plumalis.
6. Ophthalmodes infusaria
10. Gnophos muscosaria.
7. Elphos pardicelata.
8. Gnophos obtectaria
9. Gnophos aereus.



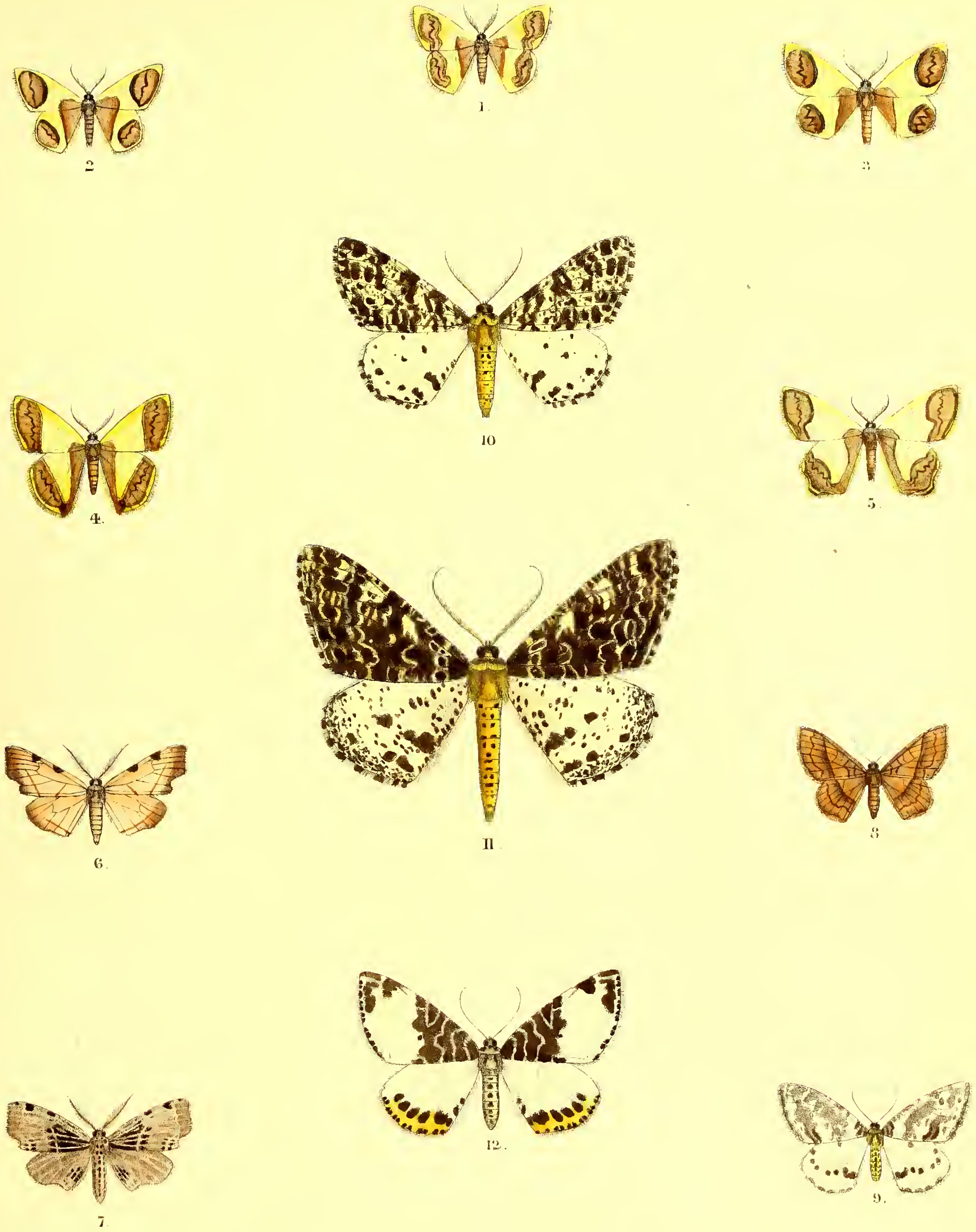
M. Horman-Fisher del et lith.

Mintern Bros. imp.

1. Argidava punctata.
2. Tanaorhinus viridiluteatus.
3. Tanaorhinus dimissus.
4. Tanaorhinus reciprocatus.
5. Loxochila smaragda.
6. Geometra grata.
7. Geometra haliaria.
8. Thalassodes distinctaria.
9. Thalassodes opalina.
10. Thalera textilis.
11. Comibæna partita.
12. Comibæna pictipennis.
13. Chlorodes pastor.

M. Horman-Fisher del et lith. Mintern Bros. imp.

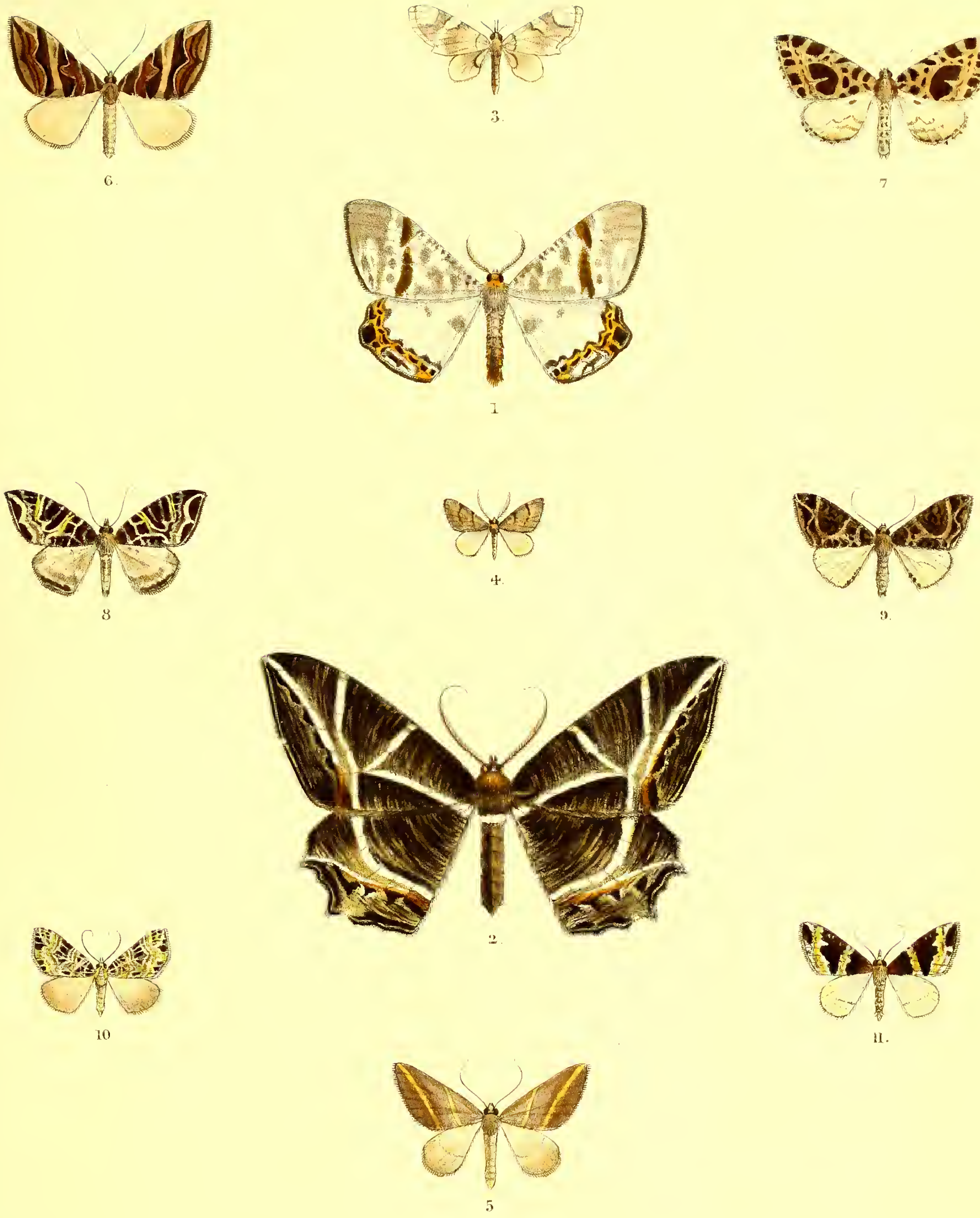
1. Agathia scutuligera
2. Agathia beata.
3. Agathia visenda.
4. Synegia infixaria.
5. Anisodes hyriaria.
6. Anisodes lidderdalii.
7. Anisodes punctifera.
8. Anisodes pluristriaria.
9. Myrteta planaria.
10. Teldenia vestigiata.
11. Macaria metagonaria.
12. Macaria xanthonora.
13. Evarzia indica.



M. Horman Fisher, del. et lith.

Mintern Bros. imp.

1. Plutodes transmutata.
2. Plutodes discigera.
3. Plutodes flavescens.
4. Plutodes exquisita.
5. Plutodes subcaudata.
6. Pagrasa rufescens.
7. Pagrasa instabilata.
8. Noreia sericea.
9. Abraxas pusilla.
10. Icterodes conspersa.
11. Icterodes consocia.
12. Callabraxas amanda.



R. Mintern del et lith. Mintern Bros. imp.

1. Vindusara metachromata. 2. Erebomorpha fulguraria. 3. Sauris ignobilis. 4. Lygranoa cinerea. 5. Docirava æquilineata. 6. Docirava medmaria. 7. Cidaria fissisignis. 8. Cidaria delecta. 9. Cidaria relata. 10. Cidaria aurigena. 11. Cidaria aliena.